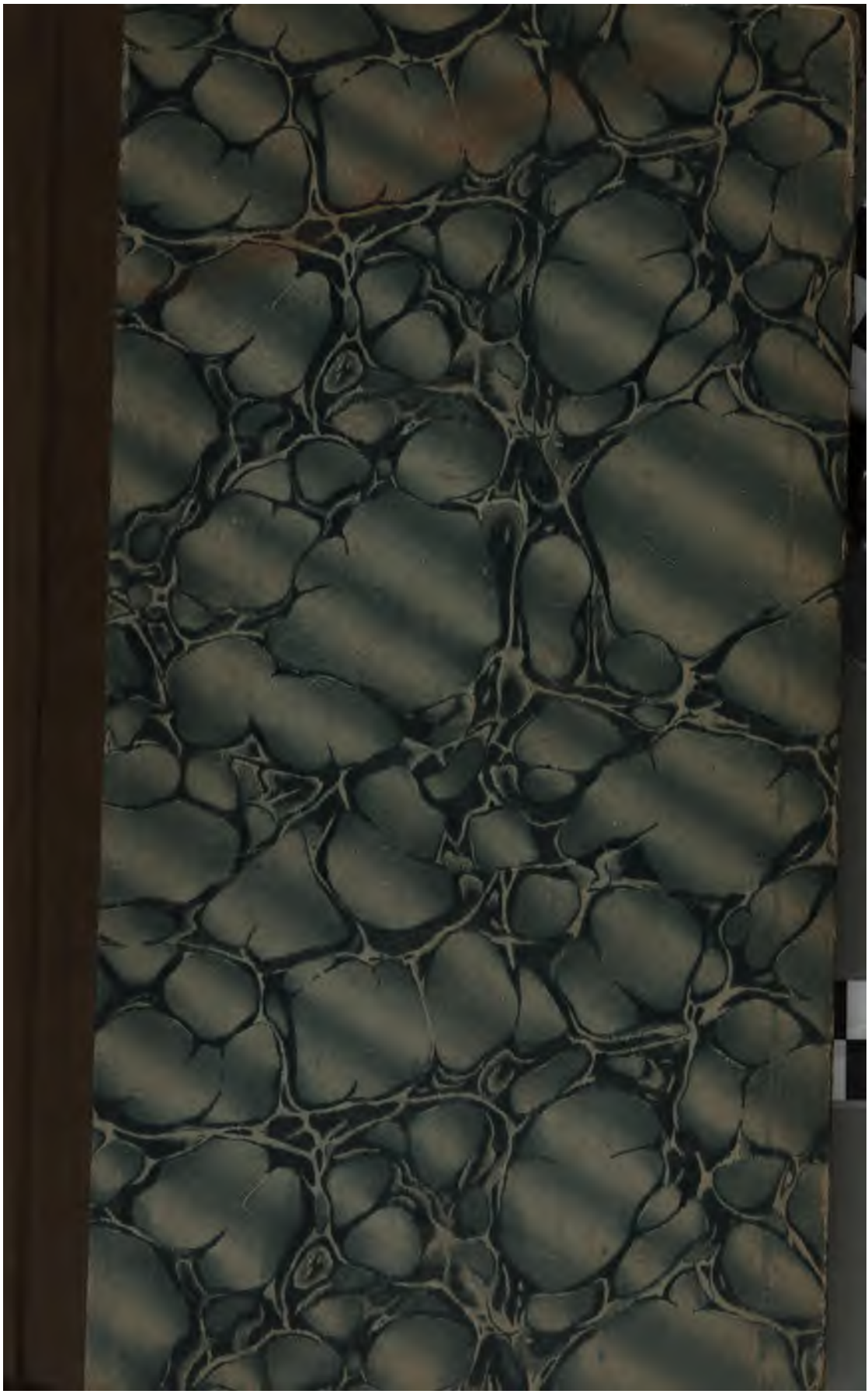

ECONOMICS

AS A

Foundation for a Theory of Government

BY

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CONTENTS.

PREFACE.

The motive of the present work is to propound a theory of distribution in which the equilibrium existing between the compensation of capital (interest) and the compensation of labor (wages) is outlined and determined. This equilibrium is obtained by regarding the productive power of capital as the productive power of the human beings engaged in producing and utilizing capital.

My object in establishing this proposition is to lay the foundation for such an explanation of the laws governing the distribution of the total product of an industrial society among all the producers as will in its turn furnish a basis for deducing certain cardinal rules of economic conduct which can be used as a test of governmental policies. This object cannot be attained if capital and labor are regarded as two entirely independent factors of production.

The cardinal rules of economic conduct which I desire to establish are, first, increase total product, and, secondly, lessen friction in the channels of distribution.

The truth of these two propositions seems patent nor would it appear that they are open to contest; but, as matter of fact, they have been the subject of bitter dispute in practical application. In the consideration

of the "trust" problem, for example, those who urge a policy of destruction as distinguished from a policy of regulation advocate a course directly opposed to the rule. Assuming that by combination the cost of production is lowered, which is the same as saying that the product per unit of labor is increased, the first rule demands that the existence of combination should be permitted. Assuming that the combination practises extortion, the second rule indicates a policy which, while permitting the existence of combinations, would by suitable measures prevent the "trust" from appropriating to itself the entire gain and thus disturbing the natural course of distribution to the detriment of the public at large. Similar applications of the principles will readily suggest themselves in the case of the tariff, subsidies, regulation of railroad charges, etc. These ideas will be developed more fully hereafter. They are merely indicated here in order to show the general plan of the study upon which we are entering.

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CHAPTER I.

DISTRIBUTION.

The central problem of economic science is distribution. Chronologically, the first economic process is production of commodities; and the second is the distribution of those commodities among the producers. There is, however, no way of determining what or how much an individual or a society will produce, further than to say that the product will be of such a nature as to minister to the wants of the human organism and will be produced as far as possible in sufficient quantities to supply those wants. From a practical standpoint, economic science is greatly interested in the amount and quality of the total product; but in constructing a theory of economic relations, the existence of a total product is assumed, and the inquiry resolves itself into an investigation to discover the laws regulating the distribution of that product among the producers. It is chiefly in the latter aspect, moreover, that we turn to economic science for help in the solution of governmental problems. To be sure, we shall see later that the power of the community may be advantageously exercised in some cases where it tends to increase the total product, but this conclusion rests upon the assumption that any such increase will eventually be distributed among the producers in proportions fixed by natural law. And when we approach that vast realm of legislation which deals with the regulation of prices and charges and as-

sumes to pass upon the worth of economic services, we are instantly met by the necessity for having some standard by which to judge whether prices and profits are higher not only than the rate current at the time, but also whether they are higher than should be allowed. This standard cannot be furnished except by a correct theory of distribution.

Let us see then whether we cannot outline a practical theory.

The problem of distribution has two aspects. The first we may term the functional. In dealing with this aspect of the problem, we seek to place the relations of a producing society in such a perspective as to show what proportion of the total product is allotted by natural law for the performance of each function. The second aspect we may term the individualistic. In this aspect, we seek to ascertain what compensation is paid to a man for his exertion or productivity, and for the time and money spent in acquiring an education.

These two methods are obviously complementary in the same sense that the elements of cost and utility are complementary in dealing with the price of commodities; that is to say, in the case of labor and capital, the performance of a function must precede compensation just as in the case of commodities utility must precede price. Indeed, the term "performance of a function" is really the concrete thing which the term "utility" expresses in the abstract. Therefore, up to a certain point, the same methods of reasoning can be pursued in constructing a formula expressing the compensation of labor, as are pursued in constructing a formula expressing the price of commodities. Betrayed by this

similarity, many writers have attempted to deal with the whole problem in that manner, proceeding upon the assumption that what they term "wages" is the price of the commodity labor. As will be seen from the following argument, however, the analogy between the two does not proceed that far.

I.

Functional Distribution.

From the proposition that the performance of a function must precede compensation, we can readily deduce the further proposition that, under ordinary circumstances, the compensation paid will bear some relation, more or less direct, to the importance of the function performed. For example, if two men of precisely the same ability and the same preliminary expense for education are placed in different occupations requiring the same amount of ability and exertion, it does not by any means follow that the amount of compensation which each will receive will be identical. The opportunity for acquiring an equal compensation may not be present. Compare the earnings of the most successful musician with those of the most successful manufacturer of steel. The latter will earn in a lifetime one hundred times as much as the former. Assuming that the elements of original ability, preliminary expense, exertion and all similar elements offset each other, we remain confronted with the fact that one man has exerted his abilities in a direction more lucrative than the other. And why is it more lucrative? Obviously because the function performed is more important to society; that is to say, the steel maker fills a more

pressing need than that filled by the musician. Moreover, this condition is permanent and not temporary. It is not within the realm of probability that, through the influence of competition or otherwise, a person or group performing the function of supplying society with musical entertainment will ever earn as great a compensation, at least from a material standpoint, as that earned at the same time by the person or group supplying society with its most essential metal.

We have here, however, to note a qualification of this principle. There are certain occupations which, by reason of social and other immaterial advantages which flow from them, are much more desirable than others of an equal or even greater monetary compensation. For example, there are many bankers, merchants, and other commercial and industrial magnates whose income is far greater than that of the president of the United States; yet the dignity and distinction flowing from the latter office are so great, the possession of power so intoxicating, that the compensation actually received by the president is greater. But while bearing this qualification in mind, we must at the same time recognize that we have practically no means of expressing such elements as fame, honor and the universal estimation of mankind in terms of material compensation.

Now, by taking the example of the steel maker and the musician and extending it to cover all society, it is not difficult to see that there is in existence what we may call a natural valuation of functions; in other words, given a number of human beings with comparatively fixed needs and aspirations, and given also a number of producers striving to supply the demand

caused by those needs and aspirations, the forces of competition will soon create a comparatively stable framework upon which the various functions are arranged in a definite scale. This scale is the resultant of the interaction of a number of forces which may, however, be grouped under the heads of, first, demand, which has its origin in the importance of the function, and secondly, supply, which is determined by the amount and quality of the labor required for the performance of the function. From this fact, we are justified in drawing the deduction that the proportion of the total product which goes to the various groups as compensation for the performance of their particular functions is, comparatively speaking, a fixed quantity.

This relation can be conceived more clearly if we disregard for purposes of demonstration the complications which arise from dynamic change and allow the forces which exist to work themselves into a static condition.

Let us assume that in a society consisting of one hundred thousand men, the supply of labor and capital, the wants of the human organism and the sources of supply of material remain unchanged. Let us say further that the wants can be classified under the five general heads of food, clothing, shelter, education and amusement. Now, when we attempt to ascertain what proportion of the labor power is devoted to each of these various functions, we are met immediately by the fact that the proportion is fixed, first, by the intensity of the need. For example, the latter two functions would not engage any substantial amount of labor until the three former had been satisfactorily performed. When the three functions first mentioned had been more or less completely

performed, the attention of the society in its consuming capacity would be directed toward education and amusement, and this demand would cause some members of the society to devote themselves to filling the need. Now what we are concerned with at the present stage of our inquiry is the fact that this little society would, in the course of time, arrive at a condition of equilibrium. The scope of the various functions would become fairly well fixed and, as the demand would remain constant, the supply would also become constant, and hence we should find from decade to decade practically the same amount of labor power employed in satisfying each of the various needs of the society. Extending this example to the larger society which we meet with in actual life, we see that the difference is merely that the larger the society the more extensive the subdivision of functions. The fundamental desires remain unchanged, and, therefore, all the functions can be classified under the same general heads.

We may, then, apply to the whole of society the statement of Ricardo that "the scale [of distribution], once formed, is liable to but little variation"—an expression which he used with respect to a limited portion of society, but which, under conditions of unrestricted competition, is applicable to the whole. The reason why this framework is not subject to violent change, except in such an extraordinary case as was brought about by the French Revolution, for example, is that the fundamental needs of the human body change slowly, and the human organism still more slowly. There is, indeed, room for great changes in matters of detail; but, after all, the permanent needs do not vary

greatly from generation to generation. That is to say, if we do not make the period of time too long, we can say that we have practically the same kind of demand, practically the same quality of labor to supply it, and practically the same sources from which to draw supplies.

This statement must not, however, be understood as intimating that the continual progress which we witness around us is not of great importance. Such an interpretation would be entirely unfounded. But when we look upon the mass of phenomena presented to us, we are apt to pay undue attention to the spectacular elements and neglect other elements which are more enduring. For instance, let us take the case of the steam engine. It has undoubtedly revolutionized industry, and by means of the greater productivity which has followed in its train, we are able to fill wants with less labor than before and also to fill wants which before went unsatisfied or were only incompletely filled. Certain changes in customs and habits of life have resulted. Commodities once deemed luxuries have become necessities; and other wants more remote from the bare necessities of existence are continually arising. The arts are more liberally cultivated and a constantly greater and greater proportion of the labor power of the community is devoted to other ends than the mere provision for subsistence. But, at the same time, men were fed and clothed and the arts and sciences flourished before the steam engine was invented, and when we enter into an investigation to determine what change has been wrought in the proportions of the labor power of the community devoted to filling each class of wants,

it is difficult to conceive of any substantial reason why there should be any considerable change, except when long periods of time are taken into consideration. The great groups are, indeed, constantly more and more subdivided as the population increases and wealth accumulates. Such a change, however, works for accuracy and stability of distribution, provided the channels of distribution are left open.

As an illustrative case, showing the framework in actual existence, consider the army of employees upon the railroads, in the government service, and in the steel and oil industries. In each of these occupations the functions have been minutely subdivided and vary but slightly with changes in the personnel. Compensation also is, comparatively speaking, fixed, and is regulated almost entirely in accordance with the ascertained value of an average man in each function, varying but little when different persons are employed. The entire body of producers tends to an approximation of these conditions.

Summing up the results of the functional scheme, we may say that the forces of competition result in a comparatively definite division of the labor power of the community among the great functions, and that, as society grows and progresses toward an equilibrium, these great functions become more and more minutely subdivided. We may say, further, that the proportion of the total product allotted to the performance of each particular function is determined (1) by the importance of the function, and (2) by the supply of those qualified to perform it.

2.

Distribution from the view-point of the individual.

Having considered the problem of distribution from the functional view-point, we have now to consider it in its relation to the individual. Here we have two methods in which to consider the problem. We can first attempt to ascertain the proportions in which the total product is distributed among all the producers considered as units of productive power, thus including both capital and labor, and, after having ascertained the laws which govern that general distribution, we can attempt to ascertain what proportion of the compensation received by each individual is imputable to capital and what to the exertion of his own physical, mental or moral powers.

A.

The share of the individual, considered as a unit of productive power.

Taking up the first branch of this inquiry, we see that, of necessity, the whole product of the community must be distributed among the whole number of persons engaged in production, whether these persons use their own physical power or direct the labor of others; and, in the latter case, whether they direct the labor of others immediately, as in the case of the superintendent and manager, or mediately, as in the case of the capitalist. We are indeed accustomed to say that capital receives compensation; but, in the ultimate analysis, the compensation imputable to capital is received by an individual. Capital has neither hands to receive nor

stomach to consume. For that reason, before entering upon the investigation to discover what part of the compensation of each individual is imputable to capital and what to the individual's own exertions, it is advisable to consider each individual with his accumulation of capital as a producing unit, performing or helping to perform a certain function. In this sense, it is possible to ascertain what relation exists between the compensation of a day laborer who uses a pick and shovel furnished by some one else, and that of a railroad magnate who uses ten thousand miles of railroad, with all its rolling stock and other equipment. Indeed, when we consider that there is practically no such phenomenon as a man working with his hands alone, but that even the laborer with a pick and shovel is using capital, it becomes apparent that the attempt to solve the problem of imputation without first treating the broader problem invites complication and error by obscuring the necessary relation between the two.

We have seen that the amount of product allotted to each function acquires in the course of time more or less stability arising from the fact that from generation to generation the physical constitution of the members of the society will remain practically unchanged and thus the same proportion of men will be available for employment in the various occupations. We now arrive by the next step at the conclusion that each producing unit would, in a state of perfect competition, receive such a proportion of the total product allotted for the performance of that function as the amount of its product bore to the total amount of product required in performing the function. For instance, if, in a static society, the interaction of the

various forces resulted in the apportionment of one-fifth of the total product as compensation for supplying the society with food, the interaction of the same forces would result in further definite apportionments to the individual members of the group performing the function; and if any unit produced one-twentieth of the amount required, the compensation of the unit would be one-twentieth of one-fifth of the total product. This conclusion necessarily follows from the postulation of equilibrium, since the equilibrium would not result until all inducements for labor to flow from one occupation to another had been removed.

Notice at this point that, in speaking of amounts of product, we are dealing with a case in which the comparative importance of the function has been fixed and also the grade of labor required in it. Hence, the value of the product, and the amount of labor required to produce the product coincide and each is a measure of the other. This result follows from the fixation of the terms of the problem. We have already proved in the study of functional distribution that the amount of product allotted to each function will be determined, first, by the importance of the function, and, secondly, by the grade of labor required. The discussion in the present subdivision proceeds upon that proposition as a basis, and merely shows that the compensation is determined in the narrowed compass under discussion by the relative amount of product. We could, indeed, say that the subdivision of functions proceeds so far that each individual may be treated as performing an independent function; but such a statement would premise an equilibrium more complete than we see around us.

It is simpler to say that functions, as a rule, require the labor of a number of men to perform them, and that the proportion which each man receives is in proportion to the amount of his productive power as evidenced by his product.

Passing now from the static state to the dynamic, let us see how far this rule holds true in actual life. When we take some occupations, as, for instance, that of an ordinary day laborer, we find that over large sections of the country the rate of wages paid per day to each laborer is practically the same, ranging from $1 to $2 per day, depending upon the nature of the employment and, to a limited extent, upon the capacity of the individual man as compared to his fellows. We find, similarly, that the wages of the clerk and artisan vary within certain well defined limits, so long as the duties pertaining to those functions are all that are discharged. In such occupations, the forces of competition have practically full opportunity to work out their natural results. When, however, we enter into employments of a higher grade, we find that the influence of the force of competition is not so pervasive. The number of capable men being more and more limited as we rise to the higher functions, it follows that the compensation which can be gained approaches nearer and nearer the limits fixed by the absolute utility of the service and is less and less affected by competition. And this remark applies with especial force to those occupations which, as in the notable case of the Standard Oil Company, are practically created by one set of men, who acquire control at the outset, develop the material and the demand and then supply the demand, thus performing practically the

entire function themselves, without having to undergo the sharp competition which is met with in the case of industries in which the supply of raw material is not limited. But the fact that competition is not so strong in the performance of the higher functions as it is in the lower need not blind us to the fact that in the great body of society, the forces of competition are adequate to create and preserve an equilibrium according to which each individual receives a proportion of the total product equivalent to the value of his service, this value being determined, (1) by the importance of the function which he assisted in performing; (2) by the number of men who are capable of performing it, and (3) by the relative amount of his productive power.

B.

The division between capital and labor.

We now enter upon the second branch of the inquiry, which is to determine what proportion of the total product is imputable to labor and what to capital. This perplexing inquiry is complicated by so many factors, and so many pitfalls await the unwary traveler, that no writer has as yet been able to advance a theory commanding universal adherence. One prolific source of error has been that the problem has not been approached from higher ground. All attempts to solve it have been based upon the postulate that capital and labor were distinct and separate producing agents, having distinct and separate spheres of action. Now, as matter of fact, no such distinction can be drawn. Capital represents merely an indirect application of labor. For instance, say that a man wants to manufacture a

suit of clothes. A direct application of labor, we may suppose for illustration, would consist in taking raw wool and making the cloth by the primitive methods in use before the invention of modern machinery. Say that by this process it would take two days to make enough cloth for a suit, or two thousand days to make enough for a thousand suits. Say, now, that this man works ten days with a hammer and anvil to construct a machine by the aid of which he can turn out each day cloth sufficient for ten suits, or in one hundred days cloth sufficient for one thousand suits. Here we have an instance of indirect labor by which productivity is largely increased. But, in its ultimate analysis, the productive power is labor, and nothing but labor. This instance can be extended to cover every instance of capitalistic production. Under all its various forms and in all its possible disguises, capital is nothing but a tool to assist in the performance of some function, and, being a tool, it represents merely an indirect application of labor to achieve the ultimate end. In the simple case given, the truth of the proposition is patent. The trouble arises when somebody else furnishes the tool. But we cannot say that the rules which govern one case do not govern the other. The compensation earned by capital is not affected by the accident of ownership.

Let us build up an illustration upon a larger scale. Let us make the somewhat improbable supposition that, with society as at present constituted, all the fleets of the world were swept away by a storm and that some great natural catastrophe removed all the workshops, mills and factories which supplied the products necessary for the construction of ships, so that the nation would

have to build up the whole industry anew. Say that a certain portion of the nation rushed to the mountains and mined the ore, that another portion went to the forests and cut the lumber, that others erected rude furnaces and rolling mills, and that still others erected shops and planing mills, and so on through the whole process of production, culminating at last in one thousand complete vessels which resumed the function of ocean transportation. Can it be claimed in this instance that it would be inaccurate to say that the function of ocean transportation was performed by all the men engaged both in operating the ships and in producing the necessary materials to build them? Can it be claimed with reason that the only proper form of expression is that the function was performed merely by those who operated the ships, the cost of construction being treated as capital and being held separate and distinct from the labor of which it is composed? Obviously not. In the above case, we can assume the existence of a capitalist or not as we please; that is a mere matter of detail in working out the problem. Yet it seems to be the idea of most writers upon the subject that the element of capital has by some mysterious agency been endowed with human attributes, that iron, gold and other metals which in their natural state are inorganic elements, become transmogrified when welded into the shape of tools and become possessed of life; indeed, under Prof. Clark's theory, that capital in the abstract is a thing separate and apart from the concrete forms in which it is embodied, we almost have the conception of a soul. But, leaving this feature of the discussion to be dealt with at a later stage when we take

up *seriatim* the consideration of the various theories of interest, let us consider the matter for a moment in a new light.

It is a matter of common knowledge that, in the course of thirty years, practically every particle of capital in a country undergoes complete change, either by renewal or repairs. Now, if we regard that thirty years as a unit and say that the society starts without capital and that all the capital goods manufactured in that period are used up in production, we can see instantly that the amount of consumable commodities produced is the product of labor alone, part of the labor power being exerted directly and part indirectly. If we go further and say that, during all that period, the conditions were those of a static society, that is to say, the society commenced work with its functional framework perfect and continued without break during the entire period, we shall be justified in drawing the additional deduction that each member of the society would receive a proportion of the total product equivalent to his productivity in this state of equilibrium, this productivity having been determined, first, by the importance of the function performed by him, and, secondly, by the number of persons capable of performing it. Under this classification, the fact that one man saves and acquires capital while another does not is counted as an element of productive strength. What each produces in the thirty years is the measure of his productivity, and there is and can be no other standard by which to judge it. After the functional framework has reached its permanent form, it is nature which places the value upon each function and man can but observe what nature does.

While dealing with this subject in the static state, it may assist to clearness of apprehension to discuss two objections which have been urged by Dr. Charles W. Macfarlane to the conception of capital as an independent power. He argues that even though it were true that all capital could be resolved into labor, as the original source from which it sprang, that fact would not justify the claim that capital is not now an independent factor. He illustrates his position by saying that "when we show that a particular organic form has been evolved from some protoplasm of the past, we do not hold that it is not now an independent species far removed from that from which it was evolved."[1]

Bearing in mind that, as stated above, even the most stable forms of capital are renewed or replaced at least once in every thirty years and that a very large proportion of capital is renewed in less than ten years, the suggestion that the relation of capital to labor is that of a fully developed species to the protoplasm from which it was evolved seems a very exaggerated comparison. Far from being remote, the connection between capital goods and labor is immediate. An important rise in the price of labor is immediately followed by a rise in the price of capital goods. The pitfall into which Macfarlane fell was that, in adopting Professor J. B. Clark's conception of capital as an abstract, homogeneous, mobile fund, he forgot the concrete elements of which that capital was composed,—a pitfall which such brilliant conceptions spread before the incautious. Macfarlane's simile implies that far back in the remote past, corresponding to the protoplasmic stage of an organism, a

[1] Value and Distribution, p. 153.

minute portion of labor was converted into capital, and by a process of combination and recombination it has grown into the vast mass which we see around us. But such a condition does not exist. On the contrary, probably one-fifth, or even more, of the working population is engaged to-day in producing capital in one of its many forms, making the connection between capital goods and labor direct and immediate instead of indirect and remote.

Clark in his recent work, "The Distribution of Wealth," treats this subject in the following language (p. 398): "Some part of the output of every kind of goods is traceable to capital and thus to the sacrifice termed abstinence; and the personal sacrifice entailed by abstinence may be measured in terms of that which is entailed by labor. . . . Since, however, the creating of a bit of capital secures an endless income, the social labor that the act of abstinence really draws out is also endless. By saving a thousand dollars now I secure a power to serve society in a minute degree and to draw a return service from society forever. But there is not a calculable connection between the present cost of the abstaining, as measured by its equivalent in social labor, and the value of the earnings of the capital (say) fifty years hence, as measured in terms of social labor of that date."

The breadth of language used and the inevitable connotations seem to indicate that Clark in handling his own conception of capital as a mobile, homogeneous fund has fallen into the same error of deduction as that which entrapped Macfarlane. If the language be literally used, it is equivalent to saying that the fund of capital is

indestructible. Now, that is not the fact, and I do not think that Clark means to convey that impression. What he has in mind is the case where the permanent fund of capital is replaced by the product of a machine that wears itself out. He has not in mind the case of an army marching through a country and destroying the mills and factories, nor the case of a tool used up in unprofitable production. But when these factors are considered, they qualify the language to a degree which in the present case is controlling. The element of productivity must be added. We must make the statements read: "The creating of a bit of capital secures an endless income (if it continues to produce a sufficient amount to obtain that income)," and "By saving a thousand dollars now I secure a power to serve society in a minute degree and to draw a return service from society forever (if I do actually render a service sufficient to induce the return service)." I do not understand that Prof. Clark claims that the income or return service would exist if it were not for the service rendered to society.

Bearing the element of productivity in mind, let us go to the next sentence. "There is not a calculable connection between the present cost of the abstaining as measured by its equivalent in social labor and the value of the earnings of the capital (say) fifty years hence, as measured in terms of social labor of that date." Now, assuming that the capital really exists at the end of fifty years, which would only be true in case it had been profitably employed during that period, and assuming also that it continues to perform a service entitling it to compensation under the conditions as they then exist,

it is to be observed, first, that if the function performed by this capital represented a permanent need and had reached its proper place in the social framework at the time the capital was originally produced, its comparative standing would not be affected fundamentally by the lapse of fifty years, and the proportion of the total product received as compensation would not be greatly altered; and, secondly, it is to be observed that the capital goods in which the capital is invested have undergone anywhere from two to ten or fifteen complete replacements. Through these replacements the compensation of this particular portion of capital is kept in constant touch with the compensation of all other forms of labor and capital employed in production, and its income is continually adjusted and readjusted in conformity with the cost of production of the capital goods and the value of the service rendered to society. A change in either of these elements immediately affects the compensation of the function, and hence of the capital employed in filling it.

We have now to consider another objection which Macfarlane has raised to the proposition that capital is not an independent factor in production, and this objection will necessarily take us out of the static state into the dynamic. He says that "Labor is not the only original power deserving economic consideration. Natural forces if limited in supply share with labor this unique distinction. Hence, in labor and the other natural forces which we are compelled to economize, we have the two factors that join in the creation of the secondary power—capital. It is therefore impossible to resolve all capital into labor alone." [1]

1 Value and Distribution, p. 153.

This objection is based upon the familiar fact that in many cases raw materials have a monopoly value and therefore the services of the possessor have an abnormal value arising from the mere fact of possession. The person owning the material does indeed perform a function and after the compensation for such performance became fixed it would be more or less stable, but at the same time, the compensation received is not limited in as great a degree as in other occupations by the forces of competition because there is an arbitrary interruption of the operation of those forces due to scarcity of the necessary material. In a candid search for truth, then, it cannot be denied that the existence of monopoly values is a disturbing element. But it must be observed that such values are met with only in the dynamic state. They are not considered in the static state; and it is not claimed that in the dynamic state the laws arrived at by a consideration of the static state apply with mathematical accuracy. They apply merely as tendencies and must be judged as such. In order to invalidate the formulas when regarded from this standpoint, the monopoly values would have to constitute a very considerable percentage of the total value—which condition cannot be proved.

The objections mentioned above are typical of a class of objections raised against the proposition that the compensation of capital can be reduced to terms of labor; but a careful analysis upon the lines indicated will in every case show that the proposition is invulnerable. We must indeed recognize that the conception of a perfect equilibrium between the compensation of labor and the compensation of capital is a conception of an ideal

state which is only approximated under the conditions of actual life. The tendency is, however, clearly marked, and in view of the fact that the conception lends itself readily to practical use, we may safely ignore any objections based upon such grounds as those advanced. Iconoclastic objections should never be permitted to destroy a useful formula, unless a more useful formula is advanced in its stead.

Summarizing the results of the chapter, the theory of distribution outlined may be put in the following formula: the total product of a society is distributed among its members in proportion to their respective productivities, the degree of productivity being determined, first, by the importance of the function performed, and, secondly, by the number of men capable of performing it.

CHAPTER II.

PRICE.

In the last chapter, while we investigated generally the laws governing the compensation of each producer, we did not investigate the particular manner in which this compensation would be allotted to him. The medium through which distribution is effected is exchange, and we have now to construct a formula which shall express the ratio in which commodities exchange for each other.

This problem is merely a different view of the problem of distribution. In considering the problem of price, we have to look at the commodities in which the labor is embodied instead of at the labor itself. Therefore, when we demonstrated that, in the static

state, each unit of labor would receive an amount of compensation equivalent to its product, we proved that the product of a given amount of labor in any occupation will exchange for the product of the same amount of labor of the same quality in any other occupation of equal importance to society; and the same remark, changing terms to suit, would hold good as to the proportions in which the product of labor of high grade would exchange for the product of labor of lower grade. This proposition may be summed up somewhat more concisely in the formula that in the static state, commodities exchange in the ratio of the respective amounts of labor required to produce them. As explained in the previous chapter what really determines the ratio is "labor with accompanying product"; but as labor will not be exerted unless the product is forthcoming, the formula is correct as stated.

In order to avoid misunderstanding, it may be advisable to call attention to the fact that the term "labor," as here used, includes the successful exertion of every human being engaged in production, whether that labor be exerted directly or indirectly; and to the further fact that it is assumed in this formula that the necessary amount of utility exists, since without utility there can be no price.

Applying this formula to the dynamic state, which we encounter in actual life, we see that it applies, not as a mathematically accurate measure of price at any given time, but as a tendency. It cannot be said that it forms anything but an approximate measure of price at any given time, although this approximation is usually close. It does, however, express the general

movement of price resulting from the interaction of the forces of competition, and the degree of accuracy of the formula depends entirely upon the extent to which those forces are operative. To insure absolute perfection, it is necessary to have both perfect competition and a sufficient period of time for the forces to work themselves into equilibrium; and by so much as these two conditions fail, the formula varies from an absolute and rigid precision in particular transactions.

Here we pause to meet an objection raised by an eminent authority. In "The Distribution of Wealth," Clark, in referring to the "difficulty that has been fatal to a certain labor measure of value," says (p. 397, n.): "If we say that the value of an article corresponds to the amount of labor of 'average quality' that has been expended in producing it, we must find a way to average different kinds of labor; and we can do this only by means of the values of the products that different kinds of labor create. These values in turn we are obliged to measure by average labor, and we thus find ourselves reasoning in a circle."

This form of statement is slightly different from that used in the present work, although it is obviously intended to cover the same state of facts. Verbally, the formula outlined in this chapter is not that "the value of an article corresponds to the amount of labor of average quality that has been expended in producing it," but that "commodities tend to exchange in the ratio of the respective amounts of labor required to produce them." I have carefully avoided the use of the word "value," because apparently it does not convey the same idea to any two minds. Clark says (p. 392) that "the value of a

thing is the measure of the effective service that it renders to society as a whole." The value of any particular man's labor, using these terms, is the measure of the effective service that he renders to society as a whole; that service is rendered through his product, the labor itself having no worth dissociated from product. Labor and the product of labor, as those terms are used in the theory of distribution outlined above, are merely different aspects of the same thing, and either can be expressed in terms of the other. I am not arguing that there is a causal connection between the formula of distribution and the formula of price. As said in introducing the subject, the problem of price is merely a different view of the problem of distribution. I am not trying to deduce my formula of price from my formula of distribution. As I look at it, the argument demonstrating my theorem as to distribution demonstrates as a corollary my theorem of price. But they constitute independent propositions proved by the same process. Neither one is deduced from the other.

But irrespective of this argument, I do not think that Clark's criticism would hold good. In my view, and also in his, the labor of other members of society, which a given amount of labor, as embodied in product, will induce, is evidence of the worth to society of this labor as exerted in that particular direction. It is also *prima facie* evidence, but not conclusive evidence, that after all the forces have worked themselves into equilibrium, the same amount of the labor of this particular man will continue to induce the same amount of the labor of other members of the society. The longer that ratio continues

under dynamic conditions, the stronger becomes the presumption that it represents a permanent or static ratio. Using it as a permanent ratio, we construct the framework for use as to future transactions. I claim that under these conditions I can use either term of the equation at will. Prof. Clark, however, objects to the use of the labor back of the commodity in the making. He says: "The individual labor which made the commodity is the economic equivalent of the social labor that is induced by it and that measures its value, and in this way individual labor performed in making an article corresponds with and expresses the value of it; but the value of a commodity is not derived from the labor that is back of it in the making. It is derived from the social service that is before it in the using."

According to my idea, the degree of social service itself depends in large measure upon the amount of labor that is back of a commodity in the making. Suppose that in an isolated society the men can obtain only two things to support life—meat and water. The absolute utility of these commodities is the same; men can not live without meat and they can not live without water. Say now that the water has to be distilled, and that only one man knows how to distil it, while meat can be obtained with but little effort. The amount of labor of other members of the society which the labor of the distiller of water will induce is limited only by his conscience and the necessity for obtaining the requisite amount of meat to live on. But if other men learn how to distil water, the social service as measured by the labor that can be induced begins to decline until at last the equalization of power produces

the equalization of compensation. Now the only thing that has changed is the labor back of the commodity, and the "social service" has varied with it. Clark deals with "social service" as if it excluded labor back of a commodity in the making, while in reality it is a compound of labor performed and service rendered. This idea can be re-enforced by another consideration. In the static state the total amount of the labor induced is necessarily the same as the total amount of the labor performed. After all the exchanges are made there is no residuum. The performance of labor by one man with concomitant product induces the performance of labor by another man with concomitant product. Each performs and each induces. They seem to me to be as inseparable as the Siamese twins. If that is the case, there is no objection to expressing value in terms of either labor performed or labor induced.

CHAPTER III.

COMPARISON WITH OTHER THEORIES OF PRICE.

While anything like an extensive investigation into the merits and demerits of other theories is beyond the scope of the present work, it will nevertheless conduce to a ready and accurate understanding of the theory advanced herein if it is placed in juxtaposition to some other theories which have more or less standing in the domain of economics. This comparison will be made so far as possible upon broad lines; that is to say, an attempt will be made to delineate the respective spheres of the various theories rather than to deal with details. What we are concerned with chiefly is the truth in the

theories; the only errors which interest us are those which bring the claims of the various writers in conflict with those advanced in the present work.

And while we are upon this subject, it may not be a waste of time to call attention briefly to the fact that a theory which is logically correct when viewed with respect to the phenomena upon which it is based, will often seem to conflict with another theory which is also logically correct when viewed with respect to the phenomena which serve as its basis. Every writer bases his work upon facts which he deems relevant to the discussion; and, as the views of men differ in this regard, it naturally comes to pass that theories are erected upon foundations differing widely in the arrangement of facts. It can readily be seen that this condition of affairs is fruitful of conflict. Looking at the matter from his individual standpoint, each of two writers might be in an absolutely impregnable position, and yet the differences between their theories might seem so irreconcilable as to mean the extermination of one or the other. This remark, as I shall hereafter attempt to show, applies particularly to the cost and marginal utility theories of value. We shall, however, defer a more detailed discussion until we reach the points at which they arise.

I.

The labor cost theory of Marx.

The first comparison which presents itself is a comparison of the labor cost theory, as outlined above, with the labor cost theory as outlined by Karl Marx and others of the socialistic school. This comparison I

am the more anxious to make because it seems to be the impression of the economic world that the labor cost theory and socialism are so closely intertwined as to be practically inseparable, and that, if the principle be once admitted that labor is the foundation of price, it necessarily follows, after an intermediate process of reasoning, that the government should own all industrial and commercial enterprises. But the foundation upon which the socialists attempt to establish this proposition contains a feature of difference which distinguishes their theory completely from that advanced in the present work, namely, the limitation of the meaning of the word " laborers " to persons directly employed in production. From this premise, the socialists argue that the whole product belongs in equity to the laborer, and that the capitalist takes advantage of the laborer's necessities and compels him to enter into a contract of employment upon such terms as to divert a large proportion of the laborer's product to the capitalist, and the argument thus leads to the conclusion that the society in its collective capacity should take over the management of all industrial and other enterprises so as to put an end to the tyrannous exploitation of the workingman by the capitalist.

In commenting upon the above argument, it must be observed that the force of socialism and of socialistic arguments, is not very extensive in the United States. No practical man of any standing can be found who would give the slightest weight to any argument based upon the proposition that the capitalist does not perform an important function ; and, moreover, a function which, from a comparison of the labor of one man with that of

another under existing conditions, is as much more important than the function performed by the laborer as the compensation received by the former is greater than that received by the latter. We must not, however, overlook the cause for this aberration on the part of the socialistic school. It is a phenomenon which admits of a rational explanation. A perusal of the historical matter gathered together by Karl Marx in "Das Kapital" shows, as matter of fact, that especially during the middle ages conditions were such that capitalists and masters and employers generally could and did use their power most oppressively and deprive the laborer of a great part of the compensation which he would have received under conditions of more perfect competition. This remark applies not only to those periods when slavery and villeinage were spread over Europe, but also to any and every period in which the forces of competition have not been allowed free scope—a condition which has by no means disappeared. The socialists, seeing this element of truth, extended it far beyond its proper limits and applied it unreservedly to present day conditions. Thus Rodbertus attempts to prove that the situation of the laborer to-day is practically the same as that which existed in the days of slavery. He says that as all land and capital have become private property, the owners of this property, or, in other words, the capitalistic class, have it in their power to force the laborers to work for just such a price as is necessary to enable them to continue their labor. "Thus, although the contract of laborer and employer has taken the place of slavery, the contract is only formally and not actually free, and

hunger makes a good substitute for the whip. What was formerly called food is now called wage" (Soziale Frage, p. 33). In view of the conditions existing in the United States, this assertion loses much of its force, althought it cannot be denied after the recent exposition of the conditions in the coal mining regions and in the sweatshops that it does exist to some extent even here. The number of cases in which its operation is of considerable importance, however, is extremely small when compared to the total, and the failure of the socialists to make any considerable progress in this country is the best evidence that those conditions are disappearing. For the purposes of the present comparison, the distinction pointed out in the beginning of this subdivision is all that is required.

2.

The Marginal Cost Theory.

Next in logical order comes the marginal cost theory. It will be noticed that the theory of distribution and price above outlined constitutes an analysis of cost of production and a reduction of that cost to terms of labor; that is to say, the argument proves as a corollary that the formula that commodities tend to exchange in the ratio of their respective costs of production is accurate. We have now, therefore, to inquire into the relation which exists between the law of cost just mentioned and the law of marginal cost.

Before entering upon the details of this investigation, let me call attention again to the divergent aims of two classes of writers upon political economy. The first class, of which Adam Smith is the founder and a most

conspicuous example, attempted to outline the underlying tendencies. For instance, in seeking a formula of price, Adam Smith said that the market price of a commodity was, to a certain extent, immeasurable, but that it tended toward a natural price, namely, that price which is "neither more nor less than what is sufficient to pay the rent of the land, the wages of the labor and the profits of the stock employed in raising, preparing and bringing it to market, according to their natural rates." This point is a central point toward which the prices of all commodities are continually gravitating. "Different accidents may sometimes keep them suspended a good deal above it, and sometimes force them down even somewhat below it. But whatever may be the obstacles which hinder them from settling in this centre of repose and continuance, they are constantly tending toward it." (Wealth of Nations, book I., ch. VII, pp. 55, 58, Bohn's edition.)

The second class, in which we may include Mill, Walker and others of the marginal cost school, and Bohm-Bawerk and his followers of the marginal utility school, attempt to find a formula which shall express with accuracy the ratio in which commodities actually exchange, and, in making their attack upon the cost theory as outlined by Adam Smith, they apparently went upon the assumption that he was attempting to achieve the same object. Thus, they urge that so many exceptions must be made to the law of cost that it is practically worthless, and as instances of exceptions Mill, Walker and Patten name the products of foreign countries, money, agricultural products, products requiring the use of fixed capital in manufacture, products

having a joint cost of production, products of skilled labor and products requiring a separate class of undertakers.[1] Bohm-Bawerk adds to this list all goods produced under the protection of a patent, copyright or tariff, and he makes the statement—which no one will dispute—that "there are at the present time very few products in which some patented machine or process or some import duty on raw or auxiliary material does not play a part." (Annals of American Academy, September, 1894.) He then asserts (Capital and Interest, p. 286) that the law of costs evidently holds good only as regards that class of goods which can be reproduced in any quantity at will.

After a consideration of these objections and of numerous other petty exceptions due to disturbed conditions, the marginal cost school came to the conclusion that it would be necessary to amend the law of cost. This they did by changing the formula that "commodities tend to exchange in the ratio of their respective costs" to read "commodities exchange in the ratio of the cost of the increments produced under the most unfavorable conditions under which the quantity of product required renders it necessary to carry on production," and thereby brought on themselves the just condemnation of a bewildered public. Realizing the necessity for reducing the length of their formula, the marginal cost writers seized upon the word "marginal," which up to that time had been in good repute, and blasted its reputation forever among lovers of clearness by using it in the expression "marginal cost" to indicate the cost of the increment produced on

[1] See Patten, Dynamic Economics, p. 33.

the margin between profitable and unprofitable production as outlined in the marginal cost formula above.

Looking at the essence of the marginal cost theory, however, it will be seen that this so-called amendment of the law of cost merely applies the general tendency to a given moment of time. It does not, as a matter of fact, constitute an accurate formula expressing the ratio in which commodities exchange at any given moment of time, but it unquestionably does express that ratio more accurately than it would be expressed by the law of cost. The difference between the law of cost and the law of marginal cost may, therefore, be summed up as follows: the law of cost expresses a tendency and not an existing ratio; the law of marginal cost attempts to express an existing ratio and not a tendency. As matter of fact, the marginal cost theory itself has been the subject of attack at the hands of the Austrians, who, to use the language of Macfarlane (Value and Distribution, part I., ch. II., sec. II., p. 28), assert "that scarcity goods are the rule; that competition at the margin is frequently interfered with by patent, import duty, etc.; that non-competing groups among producers do exist; that the marginal producer frequently secures a surplus above his cost, and, hence, that even marginal disutility [cost] must fail as an ultimate standard of value." It is, therefore, open to doubt whether the complex system of reasoning by which writers have attempted to make the law of cost express an existing ratio instead of a tendency has accomplished all that was expected. So far as simplicity and clearness go, the law of cost is far superior, and it is open to question whether any practical objects can be attained

by the use of the law of marginal cost that cannot be obtained by the use of the law of cost.

The criticism of Bohm-Bawerk that the law of cost holds good only as regards that class of commodities which can be produced at will is tenable only if we are seeking an absolutely precise measure of price at any particular time. The law of cost would hold good as an approximation, even at any given moment of time, for all goods whose prices come within anything like a reasonable distance of the point of cost, and would further express the general tendency of price.

3.

The Marginal Utility Theory.

In beginning this investigation it is of importance to note that there is no such thing as a utility theory dissociated from the marginal device; in other words, there is no deep underlying movement toward a state of equilibrium, in which goods will exchange in proportion to their absolute utility, corresponding to the movement expressed by the law of cost. The only movement involved is upon the surface and is similar in character to that indicated by the law of marginal cost. The Austrian school do not attempt to outline an underlying tendency, but they do attempt to express in terms of marginal utility the existing ratio in which commodities exchange. This object they endeavor to attain by taking a " large and organized market," and watching the course of the bargaining. Passing over the details of their reasoning, we may sum up their position in the " very simple " formula of Bohm-Bawerk that " the market price is limited and determined by the subjective valuation of

the two marginal pairs."[1] He then proceeds to say that "according as in the conduct of the transaction the buyer or seller shows the greater dexterity, cunning, obstinacy, power of persuasion, or such like, will the price be forced either to its lower or its upper limit."[2] For the purposes of this discussion, we may assume that this formula and statement are absolutely correct under the conditions given. What we wish to do is not to pick out flaws in the detail of the argument but to delineate broadly the respective spheres of the theories of utility and cost. Admitting the accuracy of the formula, then, we see that the cost theory begins where the utility theory leaves off. The Austrian economists, by the exercise of great ingenuity and an almost superhuman power of concentration upon microscopical details, have determined the point at which the competition of the market will fix price ; the cost school take this point and trace its movement as influenced by the cost of production. Thus, say that the dexterity, cunning, obstinacy and power of persuasion of the sellers of leather goods had induced the buyers to part with a sum which would net the sellers a profit of twenty per cent. In this position of affairs, it may be assumed that the formula of the Austrian school is absolutely exact, and that the amount paid represents the valuation of the marginal pairs. But have we found the point at which price is in equilibrium ? Not at all. We have merely found the point at which price happens to be under the conditions of that particular market. The position of the point of price is not stable at that point, because the supply is not stable. There is im-

[1] Positive Theory of Capital, Book iv., ch. iv., p. 209. [2] *Ibid.*, p. 199.

mediately an influx of capital and labor into the manufacture of leather goods and the market is flooded. The price falls until the capital and labor employed receive a remuneration substantially equivalent to that in other occupations. "But," say the Austrians, "our formula is perfectly good. The marginal utility has fallen." And their claim is correct. Say now, however, that instead of stopping at the point where all the producers can make the normal rate of profit, price falls below that point, as the result of overproduction. "Our formula is still good," exclaim the Austrians: "It is the valuation of the marginal pair which determines price." Precisely. It was the valuation of the marginal pair when the price was *above* its normal point; it was the valuation of the marginal pair when the price was *at* its normal point; and it was the valuation of the marginal pair when the price was *below* its normal point. This surfeit of accuracy defeats the very object of the formula. A formula that means everything means nothing. The object of economic investigations is not to invent a formula which shall follow the meanderings of price, but to determine the central point toward which price is tending and at which it will remain when it once arrives there. A floating formula, which is good no matter what the position of price may be, is of little more value as a basis for a practical theory than the number of dollars paid; it is merely an abstract expression of market price. Normal price never enters its ken, unless, indeed, the surface movement toward the point fixed by the valuation of the marginal pair can be dignified with the title of a tendency toward a norm. The only way in which the Austrians

could have drifted into the belief that they had discovered a substitute for the law of cost was that they did not think of the law of cost as expressive of an underlying movement, as opposed to a surface movement. They seem to have made the mistake, which has been repeated by Macfarlane,[1] of regarding the law of cost as merely an embryonic form of the law of marginal cost, while, as matter of fact, the former outlines a great economic tendency and the latter is a mere scholastic device which attempts to apply the general law to the phenomena presented by society at a given moment of time.

It must not, however, be inferred from the above argument that I have any intention of claiming that the marginal utility theory is not correct in its sphere. I merely wish to enter a strenuous objection against the impression which the Austrian school apparently have that their theory can be used in substitution for the theories based upon cost. In its place their formula is not devoid of value. It does not, indeed, tell anything which the world did not know, as there has never been a time when it was not assumed, either openly or tacitly, that utility must precede or underly price; but it does present that fact in a highly ingenious and polished manner. They have not discovered a theory of value which can be used by practical men in the solution of practical problems; but as an exhibition

[1] "The earlier cost theory long found general acceptance, but it is manifest that it fails to account for the products of better land and, in general, for all commodities not produced at the margin. Yet it is not a difficult matter to state the theory so as to include all such commodities. This is done by substituting for the vague and indefinite concept of cost which the earlier economists had in mind, the very definite concept of *marginal* cost." Value and Distribution, p. 22.

of scholastic skill and ingenuity in stating with precision what the cost school had taken for granted, their efforts deserve an abundant meed of praise.

The relations between the two theories may be expressed by the following example: Say that A has a stock of wheat and B a stock of rye, and that each attempts to exchange a part of his stock for a part of the other. Say also that A would be willing to give 100 bushels of wheat for 70 bushels of rye, and that B would be willing to give 100 bushels of rye for 70 bushels of wheat. Without other facts, it is manifestly impossible to say more than that the price would be anywhere between 70 and 100 on both sides; that is to say, between 70 bushels of wheat for 100 bushels of rye and 70 bushels of rye for 100 bushels of wheat, the exact figure depending upon unknown quantities, such as dexterity, cunning, power of persuasion, etc. Let us call this zone the zone of overlapping subjective valuations.

It will be observed that the method of the Austrians in postulating a "large and organized" market, in which the zone of subjective valuations would be narrowed in the above case to, say 85 and 86, does not change the nature of the problem. Reduction to the smallest possible dimensions is not solution. And even if we say that the valuations of the marginal pair exactly coincide at 85, we have not precluded the creation of new marginal pairs either above or below, whenever the marginal utility of the commodity is increased or diminished by fluctuations in the supply. Disregarding for the present, however, the underlying movement, we see that while it is conceivable that the subjective

valuations of the parties may be the same, yet practically the whole number of transactions is made up of exchanges between persons whose subjective valuations overlap, thus creating a zone within which the point of price can move, and allowing the introduction of other factors, even without driving out the existing marginal pairs and creating new ones.

Within the zone of overlapping valuations, the point of price is carried down toward the point of cost of production, because of the familiar fact that whenever any occupation or industry affords a compensation which is higher than the level in other occupations, there will immediately be a flow of capital into the occupation affording the greater compensation, thus increasing the production and lowering the price toward the point of cost, including interest, etc., as a part of cost. In order to illustrate this principle, let us take a simple case of production. Say that A and B are manufacturers of flour; that C and D are manufacturers of shoes; and that E is a capitalist. Say also that upon their respective capitals A and B are making twenty-five per cent., C and D five per cent., and E nothing at all, his capital being unemployed. There will now be a tendency on the part of E to invest his capital in the manufacture of flour, and this tendency will also be operative to a greater or less extent in the case of C and D, subject to the retarding influence of the loss they will suffer in changing the form of their capital. Moreover, so long as the manufacture of flour is more remunerative to A and B than any other form of investment, they will naturally turn any surplus they may have back into the manufacture of flour. The amount of product will,

therefore, be increased and the tendency of prices will be toward that point at which there will be no tendency for capital to flow into the manufacture of flour.

From the above, we see that even if we acquiesce in the correctness of the formula which forms the ultimate result of the chain of reasoning built up by the Austrians, we can start into precisely the same investigation and pursue that investigation by the same methods as those used by the classical economists of the English school before the theory of marginal utility had ever been heard of. This very fact shows us the respective spheres of the two theories. Utility forms the zone within which price moves, and, within that zone, the forces of competition impel price toward the cost of production. To this extent, the two theories are complementary.

The claim of the marginal utility school that their theory can and should be used in substitution for the theories based upon cost is utterly without justification, because the former theory deals only with surface movements, and does not take into account those underlying economic tendencies, a knowledge of which is essential for the construction of a theoretical science of government. The ultimate object of economic theory is to explain phenomena in such a way as to delineate the fundamental rules of economic conduct, and to furnish a standard by which it can be told whether, under given conditions, certain systems of government or certain legislative acts will or will not conduce to the benefit of the whole community, and ensure to the nation an advantageous position in the struggle for supremacy. Now, if there is any method by which the marginal

utility theory can be utilized by practical men in the solution of political problems, those who support that theory have been very lax in presenting it. Certainly, on its face, the " very simple" formula that price is fixed by the valuations of the marginal pairs appears to have only the most remote connection with tariffs, taxes and trusts. Nor does Bohm-Bawerk or his followers appear to have made any serious attempt to connect their theory with governmental problems. While some writers have, indeed, discussed such problems in the same volume with their discussion of economic theory, there is no relation of interdependence between the two. The remarks upon governmental science are not based upon rules of conduct deduced from economic principles and do not rest upon the preceding economic argument as a foundation.

In direct contrast to this laxity, the classical economists of the cost school make their whole economic theory work to the ultimate end of using it in the solution of practical governmental problems. Adam Smith directed his attack against the mercantile system; Ricardo wrote his work for the purpose of supporting his views in reference to taxation; J. S. Mill was an ardent free-trader; and the political part of the work of these writers was immediately and intimately interwoven with the economic theories advanced in the earlier part of their work.

In the last resort, every theory must be criticised in view of its practical usefulness. The public does not go to works on political economy in order to take a course in mental athletics; it has recourse to such works in order to obtain assistance in solving practical problems,

and any theory which does not afford a basis for giving this practical assistance, wastes the time of both writers and readers. In respect of practical usefulness, the theories based upon cost are so much superior to those based upon utility that comparison is really out of the question.

One additional criticism may be noted here, and that is that the mere fact that the advocates of the marginal utility theory are unable to express their formulas without recourse to a barbarous terminology is *prima facie* evidence of error. In no science is this practice less called for; and the introduction of the marginal device and the highly ingenious and artificial formulas which have been advanced merely attest the desperate straits of those who are striving for the unattainable. In economic science, as in all other branches of philosophy, mere ingenuity is out of place, and complexity is the earmark of imperfection.

4.

The theory that cost can be expressed in terms of disutility.

At this point, let us pursue our process of comparison by entering into a critical examination of the theory that price can be measured by disutility, that is to say, by the pain of acquisition. This theory is subject to the apparently fatal objection that we have no means of "expressing the subjective feelings of different people in terms of a common subjective unit";[1] but, in accordance with our plan, let us disregard this objection and endeavor to ascertain not only in what particular the

[1] Green, "Value and its Measurement," Yale Review, February, 1899, p. 397.

disutility theory is defective but also in what particular it may be of value.

In treating this theory so as to show both its weakness and its strength, let us contrast Prof. Clark's formula that " the price of things corresponds to the pain of acquisition, of which the unit is the sacrifice entailed on society by the work of the final period in each of a series of days " with his formula of distribution that wages tend to equal the product of labor and interest tends to equal the product of capital. It is obvious that if both of these formulas are correct, they will harmonize completely. The principle of the theory of distribution must be the underlying principle of the theory of price, because distribution is effected by means of exchange of commodities and price is an incident of exchange. Contrariwise, if these two theories do not harmonize, one or the other must be wrong.

Comparing the two formulas, and adopting as proved the proposition that labor or pain induced is the equivalent of pain endured by workers in production, we find that the formula of price would require a theory of distribution which would proportion the compensation of each producer to the pain he endured, whether or not that pain were accompanied by production, while the formula of distribution contains a distinct recognition of the fact that compensation is proportioned to product. These two formulas—while apparently conflicting—are not, however, irreconcilable. Under Clark's theory of distribution, the forces of competition impel society toward a condition of equilibrium in which all producers, from the superintendent and manager down to the performer of the most humble function, obtain as wages an

amount equivalent to their product; and while in individual cases at any given moment of time, the compensation may vary widely from this ideal proportion, yet the greater the departure from it the stronger the influence of the forces of competition. Now, it is undoubtedly true in a sense that it is the operation of the principle of disutility which causes the construction of this economic framework; that is to say, the prizes are open to all, but there are only a few who can endure.[1] But this very reconciliation of the formulas serves to point out the inherent weakness in expressing cost in terms of disutility. It is evident that, under the most elemental rules of logic, we must go to the framework itself to obtain a basis upon which to build the formula and not merely to one of the elements which have aided in the construction of that framework. If we do attempt to go back of the framework and to express cost in terms of the subjective constituents, we must include them all. It will then be found that differences in ability cannot be expressed in terms of disutility because those who have the greatest ability are precisely those who have to endure the least pain in production. Pain is a system of incompetency. The attempt to express cost in terms of disutility is, logically, an attempt to express the whole in terms of one of its parts—an impossibility.

[1] It will be observed that, in the above argument, disutility is dealt with in its capacity as a motive force. As such, it merits consideration. The accuracy of the formula that cost can be measured by marginal disutility is not disputed, although it is evident that we can make the objection raised to the formula of marginal utility, namely that it does not express those fundamental tendencies which it is the object of economic science to expose but expresses only a surface movement, which, while it applies to every commodity, yet hardly deserves the name of a tendency. The weak point in such formulas is not that they are actually erroneous, but that they are perilously near to being truisms.

5.

Summary.

In glancing back over the various theories which we have considered, we may repeat the remark suggested at the beginning of the chapter that in no case is there such a direct conflict as to render the existence of any one of the theories mentioned incompatible with that of all the others. With the relations of each of the theories to each other, we have no particular concern; but, placing them side by side with the theory advanced in the present work, we see that they are all embraced within its scope. We may summarize the results of our reasoning as follows:

(1) The theory advanced in this work is based upon the law of costs; that is to say, the law that commodities tend to exchange in the ratio of their respective costs of production. The affirmative part of the theory consists of a reduction of cost to terms of labor.

(2) The labor cost theory of Karl Marx and the socialist school is practically identical with the theory in this work up to the point where the element of capital is encountered. Marx and his school deny that the capitalist performs a legitimate function for which he is entitled to compensation, while I assert this proposition.

(3) The marginal cost school take the law of cost, which is expressive of a tendency, and apply it to the phenomena existing at a given moment of time, thus attempting to arrive at a formula expressing the ratio in which commodities actually exchange under dynamic conditions instead of attempting to find a point at which

they would exchange in a condition of equilibrium and then using this point as a central point toward which the ratio incessantly moves under dynamic conditions.

(4) The marginal utility school in arriving at the point at which the price will be fixed under the conditions of any given market have merely indicated with precision the point whose movements must be traced and explained by the law of costs.

(5) The attempt to express price in terms of disutility contains a fundamental error of logic because all of the elements involved are not included.

CHAPTER IV.

COMPARISON WITH OTHER THEORIES OF DISTRIBUTION.

It has been the custom of many writers in the past to distribute the total product of a society among three principal factors,—rent, labor and capital. The trained economist has undoubtedly noticed that of these three factors, the first has not so far been mentioned in this work. It has not, however, been forgotten; and, now that we are about to subject the theory advanced in the present work to the crucial test of comparison with other theories of distribution, it becomes necessary to inquire particularly into the nature of economic rent and the relation which it bears to our formula.

I.

Economic rent.

First: As to the meaning of the term. As the word connotes, it was originally applied to land, and in the beginning was used in what is now its popular

sense, of compensation for the use of land. It soon became recognized, however, that the compensation paid for the use of land was a very complex thing, and that a part of it and in most cases, the larger part could be accounted for as compensation of labor and capital which had been expended upon or invested in the land. It was, therefore, argued that the portion of the compensation imputable to these two elements should be deducted from the gross return and that only the balance should be termed economic rent. The peculiarity in the use of the term had its origin at this point. Land which yielded only such a gross return as was barely sufficient to attract the necessary labor and capital to work it was regarded as normal or "no-rent" land.

The factors which give rise to rent of land, using the term "rent" in its technical and not its popular sense, are exceptional fertility, proximity to a good market and similar factors. The term has, however, a broader meaning. It has been latterly regarded as applicable to all factors of production. We thus have exceptional compensation springing from such causes as special talent and ability, extraordinary bodily strength, etc., classified as a rent. We have consumers' rent and producers' rent and differential surpluses, etc., etc., *ad infinitum*. But fortunately we need not go into these tortuous mazes of scholastic ingenuity. All that is necessary for our purpose is to ascertain the relation which the theory of economic rent bears to the theory under discussion, and this object can be attained in a few words.

It will be remembered that the formulas which we have already deduced are based upon the conception

that the society has worked itself into a static state, or condition of equilibrium. After arriving at the formulas in this state, they are applied to the dynamic conditions of actual life as tendencies. In each individual case there is a greater or less variation from the normal. This variation, when it is above the norm, is economic rent.

We are now confronted with the problem of how to treat this element. Broadly speaking, there are two methods of handling it; the first is to attempt to reduce it to some definite form, and ascertain the laws which govern it; the second is to ignore it except as a qualifying influence. Let us consider the respective advantages and disadvantages of these two methods.

In regard to the first, when we try to find a practical measure for this element, we meet at the outset with the logical inconsistency of the attempt to measure a thing which by its terms is immeasurable, to ascertain the laws governing a thing whose definition imports freedom from law. For instance, taking a concrete case, say that the normal price of a bushel of wheat is 75 cents, but that on a particular day it is selling for 80 cents—a variation of 5 cents from the normal price. Now we can give an abstract expression to the 75 cents of normal price; it is that price which, under conditions of equilibrium, would recompense the producer according to the natural valuation of the function performed by him, determined as we have previously stated; that is to say, by the importance of the function performed and the number of men capable of performing it. That is a definite conception. But when we attempt to provide an abstract expression for the 5 cents variation, we cannot be more definite than to say that the demand is

sufficiently great to push the price up to 80 cents; or, using other and less familiar words, that the marginal utility of the commodity is equivalent to 80 cents per bushel. Such an indefinite conception is completely valueless for any practical purposes, and the efforts of well-meaning economists to render it of value for theoretical purposes has led to a dreary and profitless discussion, which may be aptly compared to the most labyrinthine productions of mediæval scholasticism.

In regard to the second method of treatment, we find, when we simply state that the formulas of the static state apply to dynamic conditions as tendencies, that we get rid of the whole trouble. Unfruitful web-spinning is succeeded by fruitful argument. The discussion is thrown immediately into broad lines and the formulas cannot be successfully attacked by bringing forward petty exceptions. We are enabled to see in their true perspective great masses of facts, and, when so regarded, their proper relations and bearing became manifest. It is, therefore, conceived that from a practical standpoint, the subject of rent contains no element of value to the present discussion, and with the exception of this short mention it will be omitted altogether.

2.

Wages.

Let us now take up the consideration of the views of various writers upon the subject of wages, particularly in regard to the wages fund and productivity theories, which will serve better than others to illustrate the relation which the theory under discussion bears to current views.

A.

Wages Fund Theory.

There is one point about the theory outlined in this work which will immediately strike the student of economics, and that is its similarity to the old wages fund doctrine, which nearly every writer upon the subject takes pains to say was long ago exploded by Thornton, Longe and later authors. This similarity becomes the more marked as the functional scheme is developed, for it is then shown that, as society approaches an equilibrium, the various groups of producers have their proportions of the total product allotted to them by natural law. This idea in a somewhat limited form seems to have underlaid the argument of J. S. Mill. For instance, he says that wages depend mainly upon the demand and supply of labor, or, in other words, upon the proportion between the number of those who work for hire and the amount of capital employed. "Wages cannot rise but by an increase of the aggregate funds employed in hiring laborers or a diminution in the number of competitors for hire; nor fall, except either by a diminution of the funds devoted to paying labor or by an increase in the number of laborers to be paid." (Book II, ch. XI.) And in writing about the power of labor organizations to increase wages, he says that "they might doubtless succeed in diminishing the hours of labor and obtaining the same wages for less work, but if they aimed at obtaining actually higher wages than the rate fixed by demand and supply, the rate which distributed the whole circulating capital of the country among the entire working population, this could only be accom-

plished by keeping a part of their number permanently out of employment." (Book V, ch. X, sec. V.)

From these expressions, it seems to have been deduced that, under the wages fund theory, as expounded by Mill, trades unions would be powerless to improve the condition of the laborer by raising his wages, and it was this conclusion that induced Thornton to attack the theory. The same objection may be urged against the theory advanced in the present work. It will be observed, however, that the validity of this criticism depends largely upon the interpretation which we give to the phrase "rate fixed by demand and supply." Does that phrase express an existing condition? In other words, when we use the phrase, do we mean that the rate actually existing is the rate fixed by demand and supply, or do we leave the door open for movement? For instance, say there are two carpenters, one working for $1.50 per day, and the other unemployed, and that there are three employers, one of whom engages the first carpenter at $1.50 per day and the other two of whom, not knowing of the existence of either of the carpenters, have to go without a man although they would pay $3 per day. In this case, what is the rate fixed by demand and supply? Evidently, the answer must be that while the rate actually existing is $1.50 per day the potential rate is $3. A similar example can be adduced to show that while, in any given case, the actual rate of wages, or, in other words, the total amount set apart to be divided among the workingmen, may be a certain amount, yet there is a possibility of a larger figure if the employers are compelled to give it by a proper combination of workingmen. This

fact is ably demonstrated by Thornton. But in his demonstration he jumps to the opposite extreme. Taking exception to the so-called "inexorable," "immutable," "eternal" laws by which it was said that the price of labor was governed, he proceeded to say that, not only did no such laws exist, but that, on the other hand, in dealing with "that ever-changing chameleon, human character or disposition, price cannot possibly be subjected to law" ("On Labor," p. 65). The theory of distribution outlined in this work is in the nature of a compromise between these two opposing views. The question of just how far labor unions are effective to raise the price of labor will, I hope, be treated in a subsequent work. We may, however, anticipate the conclusions and say here that, inasmuch as there is a certain best proportion in which capital, manual labor and labor of superintendence can be employed, and as there is further a tendency toward compensating each of these elements in proportion to its relative importance in achieving the ultimate result, it follows that under any given conditions there is a certain amount of the total product attributable to each. Just what this amount is can never be determined, except empirically, and whether, as matter of fact, the so-called laboring classes at any given time are receiving a due proportion of the total product cannot be solved by deduction. There is no process of philosophical mathematics available. The general view outlined finds support in the work of Cairnes, who showed that if the laborers by combination trenched upon the normal rate of capitalistic profits (which in the theory above outlined would mean the rate fixed by the framework), the inducement to save would be lessened,

capital would decrease, and this in the end would react upon the rate of wages.

What, then, is the exact relation which the theory outlined in the present work bears to the wages fund doctrine? It is not difficult to find points of similarity; nor, on the other hand, is it difficult to find points of difference. Placing the general conceptions in juxtaposition, however, we find that part of the divergence is due merely to a difference in form of expression. For instance, the idea that the circulating capital of a society constitutes a fund destined to the compensation of labor, using that term in its narrow sense, does not differ greatly in substance from the idea that the interaction of the various forces involved results in a fairly stable scheme of distribution by which the laborer or wage earner obtains a continuing definite share of the total product of the society. Particularly is this similarity noticeable when we consider that the medium through which the wage earner derives his share of the total product is the capitalist, and is for the moment in the form of money, *i. e.*, circulating capital.

With the differences between the wages fund theory and the theory under discussion, we are not particularly interested. They arise chiefly from the idea that the wages fund was a thing separate and apart from the general framework of the society, and hence that deductions could be drawn based upon the assumption that the wages fund would remain stable while the other great subdivisions of the framework underwent change. A discussion of the various errors to which this attitude gave rise would be profitless here; it is sufficient to say that under the view adopted in the present work, the

laboring class, as that term is understood by the supporters of the wages fund doctrine, constitutes a subdivision of the great body of society, and that while the proportion of the total product received by it remains fairly stable, the actual amount received is subject to great fluctuation, in common with the amount received by the other participants. In other words, the proportions vary only with fundamental changes in the human organism; the amounts vary with changes in the quantity of the total product.

B.

The Productivity Theory of Wages.

The productivity theory was foreshadowed in Walker's Political Economy, although its most conspicuous exponent is Prof. J. B. Clark. The wording which the formula expressing this theory usually takes is that the wages of labor may be measured by the marginal productivity of the laborers. As heretofore shown, the addition of the marginal idea does not work any radical change in the theory, but merely applies a tendency to a given period of time. Clark has introduced a further factor, consisting of an abstract fund of labor, representing the labor-power in a mobile form. This idea he has used with great ingenuity, but as it does not seem to be necessary to the establishment of his thesis, and as it is somewhat out of our way, we need not follow him into that portion of his argument. What we are concerned with is the tendency which he notices toward a condition of equilibrium, or static state, in which each unit of labor receives its product; from which proposition we may deduce the further proposi-

tion that, after the value of the labor has been ascertained, the product of each unit of labor will exchange for the product of any other unit of the same grade, and similarly as between high-grade and low-grade labor. That idea is the basis of the theory found in these pages. The difference between the productivity theory, as outlined by Clark, and that outlined in the present work, is that Clark does not define with exactitude just what productivity means. Marginal productivity may be a more definite conception than general productivity, if we wish to consider a given moment of time; but the greater definiteness does not consist in more minute analysis. Analysis means subdivision, not contraction. For the purpose of subdivision it is immaterial whether we take productivity or marginal productivity; the elements of one are the elements of the other.

What are those elements? When we speak of a man's productivity, or, in other words, his economic efficiency, we evidently mean that he has performed or is performing an act which tends to the benefit of either society as a whole or of the individual members thereof. The service performed is the product; the relative importance of that service as compared with the services of others is the measure of his productivity.

But we have not yet reached the end of the process of subdivision. "The relative importance of the service,"—by what is that determined? That is to say, what are the elements whose interaction creates this thing, "importance"? On the one hand is the want; on the other hand is limitation in the number of those who can supply that want. The interaction of

these two elements, if allowed to continue until an equilibrium is established, works out the framework which is described in Chapter I.

When we reach the condition of equilibrium, productivity and marginal productivity are identical terms, since all production is then carried on at the margin, and therefore the share of each person is at the marginal point.

If I am justified in my view as outlined above, it will be seen that in substance the theory of Prof. Clark as to wages is the same as that advanced in the present work, although there is difference in the method of treatment.

3.

Discussion of Various Theories of Interest.

We may compare as briefly as possible with current theories the conception of interest which we have arrived at, and particularly with the so-called marginal productivity and abstinence theories, since these involve conceptions somewhat similar to those under discussion.

A.

The Marginal Productivity Theory of Interest.

In our investigation of the relation between the law of cost and the law of marginal utility, we saw that the ingenuity of the Austrians, instead of furnishing a theory in substitution for that set forth by the law of cost, had merely stated with more precision than theretofore the problem to be solved. Let us see whether an investigation of the theory of interest based upon the same foundation will not furnish us with a second precise statement of the problem to be solved.

Bohm-Bawerk says that the very center and kernel of his theory of interest is the proposition that " present goods are, as a rule, worth more than future goods of like kind and number." This fact is attributable to two causes. First, many men are less completely provided for in the present than they hope to be in the future; and, secondly, there is a tendency in human beings to underestimate any enjoyment in the future as compared with the present. In addition to these two influences, he finds that capital has a certain productivity due to the fact that roundabout methods of production are generally more profitable than direct methods.

We now have a statement of the nature of interest from the marginal utility standpoint, and, after Bohm-Bawerk reduces it to the smallest possible dimensions by the use of the marginal device, he thinks he has discovered a measure. In this statement, we have two abstract elements and one which we may reasonably call concrete. Precisely how much more a man will value a present good because he is not as completely provided for in the present as he hopes to be in the future may be a very definite and easily ascertainable quantity, but Bohm-Bawerk has omitted to provide a measure for it; and the same remark holds true concerning the difference in estimation. Verbally, the conception of subjective valuations of this nature is quite tenable; but when we come to seek a measure for them, we invariably find that they are as elusive as phantoms. The element of productivity, however, we find to be a very definite and tangible element, and one which does not require an excessive effort of the imagination to comprehend. When we say that by

indirect methods we can produce 200 suits of clothes with the same amount of labor as would be required to provide 20 suits if direct methods were employed, we have before us a conception which can be reduced to a formula.

The work of reducing the conception of productivity to a formula has been performed by Clark, who has shown that the rate of interest is "determined" by the marginal productivity of capital, or, in other words, by its product in the least productive industry in which its employment is economically permissible.

In regarding this theory of interest critically, it is not difficult to perceive that it involves precisely the same merits and the same shortcomings as can be found in the marginal utility theory of price. Marginal productivity is the marginal utility of capital; interest is the price of capital; the price of capital is fixed by its marginal utility. We need not, therefore, repeat the discussion of this subject which is contained in our comparison with that theory. If the arguments advanced were sound in that instance, they are sound in this. If marginal utility is merely an abstract expression of the market price of commodities, then marginal productivity is merely an abstract expression of the market price of capital; and if it be true that whenever the marginal utility of a commodity is above or below the point of cost, as defined, capital and labor will flow into or out of the production of that commodity so as to bring it back to that point, then it must follow, by analogy, that whenever the marginal productivity[1] of capital is above or below the

[1] That is to say, its marginal productivity of value as distinguished from bulk product.

point of cost, as defined, then capital and labor will flow into or out of the production of those specific capital goods until the marginal productivity of capital returns to its normal point.

Nor is this argument to be avoided by Clark's conception of capital as an abstract, mobile, homogeneous fund. While this fund can be conceived of as separate and apart from its component parts, somewhat as we can conceive of life as a thing apart from the physical constituents of the body, yet, inasmuch as the fund must increase or decrease, both from a quantitative and a value standpoint, with fluctuations in the quantity or value of its prosaic constituents, we can, for our purposes, use either the concrete or the abstract expression at will.

B.

The Abstinence Theory of Interest.

The abstinence theory of interest was first elaborated by Senior, who defines the term "abstinence" as "the conduct of a person who either abstains from the unproductive use of what he can command or designedly prefers the production of the remote to that of the immediate results," etc. In one feature, his theory is not dissimilar to that advanced in the present work; that is to say, he does not include capital among the primary factors of production, but treats it as a product of labor, natural agents and abstinence. Expressing his theory briefly, we may say that it is substantially that, in addition to the increase in product which must result from the use of capital in order to return to the capitalist an amount of value equivalent to the capital employed,

there must be an amount to compensate him for the disutility involved in the postponement of present enjoyment. If such an amount is not received, there will be a cessation in the production of capital until the amount of product receivable for its use is increased to a sufficient amount to induce the production of more capital.

Placing this theory in juxtaposition to that outlined in the present volume, we see that the results of the two conform up to and including the point that, in order to induce capitalistic production, there must be not only a return to the capitalist of the amount of the capital used but also an additional amount to induce him to produce capital. It is quite evident that no man is going to risk his capital in production unless there is a fair prospect of making more than the amount of his capital, and it is contrary to the experience of everyday life to say that the investment of capital in production is more or less of a gamble and that if one man gains another man must lose a corresponding amount. The contrary is matter of common knowledge and needs no demonstration. The difference between the abstinence theory and the theory advanced in the present work is that when Senior arrived at the conclusion that some compensation must be paid to the capitalist to induce him to continue production, he stopped; in the present work we proceed further and indicate the point at which the compensation of the capitalist would be in equilibrium with the compensation of every other member of the society.

It has, indeed, been urged by certain critics that Senior's theory of abstinence was incomplete because it failed to take the productivity of capital into considera-

tion. A careful perusal of Senior's work does not disclose that he intended that the productivity of capital should not be considered. Indeed, the whole of his work seems to have been written under the tacit assumption that capital would have the necessary productivity. Regarded in this light, the later compromises between the abstinence theory and the productivity theory of interest are rather superfluous. Marshall says that marginal utility and marginal disutility "co-operate like the two blades of a pair of shears." Macfarlane sums up the situation by saying that interest may be measured either in terms of marginal productivity or of marginal abstinence, but it can only be determined by the joint action of these two factors. In the theory outlined above, we have adopted a position substantially equivalent but slightly different in the method of expression. The productivity of capital is regarded as an underlying necessity, which being furnished, the price for the use of capital, in other words interest, moves toward the point of cost, this cost being expressed in terms of labor.

CHAPTER V.

DYNAMIC MOVEMENTS.

In the preceding chapters, we have outlined the economic framework upon which every producing society would be arranged in a state of equilibrium. By the postulation of a static state, we avoided for the moment the consideration of the various dynamic changes in order to focus our attention upon the framework itself, with the intention of proceeding, after the construction

of the framework, into a contemplation of its operation under the complex conditions of life as it is. Under static conditions, all elements of change are absent. No new commodities are discovered to compete with those already in use and take their place in the habits of the people. There are no improvements in methods and machinery of production by which the quantity of output is increased. The human organism, the mental and physical powers of men, remain a constant quantity. Births and deaths, if reckoned with at all, are considered as off-setting each other; and all idea of immigration and emigration is excluded.

But in actual life these complicating influences exist, not separately so that we can single them out with ease, but interwoven, combined in countless proportions. The result of their interaction is a state of almost infinite complexity. We must now inquire as to the effect of these conditions upon our theory. The formulas which have been constructed in the peaceful quietude of equilibrium must be thrown into the whirling vortex of life. We cannot, however, jump at once into the middle of this mass of involved and conflicting forces. We must segregate them, and study the effect of each in turn, and after the influence of each is ascertained, we must then take up the study of their combined action. In this way alone is it possible to bring the problem within the scope of the human intellect. What, then, are the elements of change with which we must deal?

First, is the discovery of commodities with new utilities and improvements in methods and machinery of production resulting in a qualitative increase in the total

product; second, improvements in the methods and machinery of production resulting in a quantitative increase in total product; and, third, changes in the human organism itself. In addition to these influences, there is a constant increase or decrease in population ensuing upon the advancing or declining condition of the society, the influence of which must be calculated. Let us take up their consideration in the order stated.

(1) *Qualitative increases in product.* The advance of science, with its consequent discoveries and improvements in processes of manufacture, and the ever extending range of commercial activity, result in a steady improvement in the quality of the total product, irrespective of changes in quantity. Commodities are continually being brought into the market which possess new utilities, or utilities of the same kind as are possessed by commodities previously in use, but different in degree. As examples under the first head, we may cite generally all articles of foreign origin and all domestic articles at the time of their original introduction in the market. Tea, coffee, and tropical fruit at the time of their first importation, and more recently Japanese ware, may serve as illustrations. These new commodities are either used in satisfying needs previously left unsatisfied or come into competition with the commodities previously in use and eventually supersede them whenever better adapted to the needs of the community, provided the difference in price does not exceed the difference in utility. Under the second head an example of a case in which a better adapted commodity has resulted in pushing good but comparatively inefficient

commodities to the wall readily suggests itself in the use of iron and steel in bridge building and in the steel-frame buildings which are now going up so rapidly in New York. Wood and stone, which were once the main structural material, are in these cases practically obsolete. In the case of steel-frame buildings, the outer coating of stone is a mere shell and the rafters, girders and other material supporting weight are steel. And as the price of steel becomes lower and lower, the probabilities are that its use will continue to extend. There are even now manufacturers ready to supply all kinds of office furniture in steel; and even in domestic furniture, iron and brass bedsteads are making inroads upon a province in which wood once reigned supreme. Recent discoveries, which promise that aluminum may be produced much more cheaply in the near future than it has been in the past, seem to open the door to the possibility that it will succeed in ousting steel, iron, tin, wood and even silver from a number of functions heretofore performed by them. In the manufacture of domestic utensils, etc., aluminum would rapidly supersede tinware if it were not for the difference in price. Even with this advantage, there are a number of factories engaged in the manufacture of domestic utensils of aluminum. For another illustration we may cite the case of gas which, after taking the place of oil as an illuminant, is threatened with ouster by the electric light. These instances are but types of a movement which is continually going on around us and thousands of examples can readily be selected by any one from his individual experience.

In what way can we summarize this tendency? We can form a fairly definite idea of its beginning: what is the end? Evidently there must be an end. Even such startling innovations as wireless telegraphy and the Roetgen ray, which admonish us that the resources of nature are but opening to our ken, cannot detract from the sense of limitation. He would indeed be rash who attempted to place that limit at any specific point in terms of the commodities themselves; but it is possible, nay, it is necessary for the purposes of economic science that there should be an abstract expression of the ultimate point toward which conditions move. This object we achieve by stating, as a general principle, that in every society there is a movement not only toward the use of the most beneficial commodities which are in the market at that time, but also that there is a movement toward a condition in which the commodities used will be the most beneficial that nature can supply.

Let us now ascertain the effect of this movement upon the distributive share of each individual in the framework outlined above. Assuming for the moment that the substituted commodities require the same grade of labor in their manufacture as is required in the manufacture of those for which they are substituted, it will be seen that the proportions in which the total product is distributed will not be changed. For instance, if we express the comparative abilities of men in a little society by the figures 1, 2, 3, 4 and 5, and say that a commodity were discovered which was so much better than the commodity produced by the men with ability equivalent to 4 that it would be substituted for it as fast as it could be manufactured, and if we suppose that the

manufacture of these new commodities can be most economically carried on by the men with ability equivalent to 4, it will be seen that if the product of a day's labor of one of these men were to exchange for more than four-fifths of a day's labor of men with ability equivalent to 5, it would be to the interest of the latter to abandon their own occupation and produce the commodity. Labor would consequently flow in from that stratum until the compensation of the men with ability equivalent to 4 was brought down to its proper proportion. There would, of course, also be a flow of labor from class 3 to class 4 so long as the price of the commodity remained abnormally high; but this labor would be pushed out when the price fell and it was brought into close competition with class 4. The flow of labor would in this case create an equilibrium substantially the same as previously existed.

It will, therefore, be seen that mere changes in the utilities of the commodities produced do not have any effect upon the proportions in which the total product is distributed so long as the quality of labor required in their manufacture does not change. There is, however, an increase in the total amount of utility distributable, and hence in the share of each unit.

In cases where newer and more elaborate processes of manufacture require a higher grade of labor than that previously employed, there results, of necessity, a readjustment of the framework, and the same remark applies if the new process requires a lower grade of labor. This complication, however, we need not consider further since it must be dealt with by the same process of reasoning.

(2) *Quantitative increases in product.* When we take up the second source of dynamic change, improvements in methods and machinery of production resulting in a quantitative increase in the total product, we have to consider the effect of changes in the quantity of commodities produced as distinguished from the quality.

Ever since the introduction of the steam engine the amount of commodities producible by a given amount of labor has been growing steadily greater and greater, and the probabilities are that the future will witness an even more striking development than has taken place in the past. The progress of invention, far from slackening, seems to become ever more and more rapid. The accumulation of capital and the growth of population, resulting in an enormous demand and the control of unstinted means in supplying it, are continually increasing the amount of product per unit of labor. In place of the old water-wheel mills, which were the chief reliance of the community fifty years ago, we see enormous steam-driven plants at Minneapolis and St. Paul, with a capacity of 50,000 barrels of flour per week. The infinite water-power of Niagara is being harnessed for the generation of electrical power, and means are rapidly approaching perfection for the transmission of that power over great distances to points more advantageously situated for manufacturing purposes. To the results of inventive genius, consolidations and combinations such as the United States Steel Corporation and other giants of industry add their almost perfect utilization of power, and the effect is a capacity for production that would have been inconceivable in the days of our grandfathers.

But however great the strides may seem, it cannot be assumed that the field is inexhaustible. The time must come when no further improvements in methods or machinery can be devised; and when no further combinations or consolidations will be economically advantageous. It would, indeed, be rash to predict when this point will be reached, but we should not be justified in saying that the opportunity was illimitable.

Summing up this tendency, we can say that, in the ultimate economic state, commodities will be produced by the best possible processes; that is to say, by those processes which can produce at the smallest expenditure of labor the quantity and quality of commodities best adapted to the needs of the society.

Referring back now to the proof that qualitative increases in the total product were distributed over the whole framework without any changes in the proportions except such as were made necessary by variations in the quality of the men required in production, we see that, if that argument be sound, it follows as a necessary consequence that quantitative increases will also be distributed over the whole framework without changes in the proportions, except such as flow from variations in the quality of men required.

(3) *Changes in the human organism.* It is evident that the improvement in environment arising from the two causes mentioned above, when acting in conjunction with the process of selection of the fittest which is constantly in operation, produces a continuous movement toward a complete adaptation of the human organism to its environment, and with the unceasing progress of the

environment toward the best possible, it follows that there is a tendency toward the evolution of the most efficient men.

The researches of the physical scientists leave no doubt that a man coming from a race of iron workers, for instance, will, in the absence of complicating factors, be more likely to possess talents essential in that field than if he were born of a purely agricultural race. The same remark holds true as to all occupations except those in which, from the nature of the occupation, there is a marked deterioration in the physical and mental quality of the workers. As an instance of this exception, we may cite gold-beaters, glass-blowers, workers in lead, etc. Another instance would be in the case of miners, a large proportion of whose lives are passed underground, and who must, therefore, degenerate from generation to generation unless sustained by the admixture of fresh and vigorous blood. But despite these exceptional instances, there is a clearly marked tendency from generation to generation and age to age toward the evolution of men better fitted than their progenitors to carry on the work of civilization. For instance we should not be justified in saying that any race which history records possessed in such a marked degree as the English speaking peoples the elements which make for the highest civilization. It is necessarily difficult to compare two races, one working when the mechanical and industrial arts were in their infancy, and the other working with all the accumulated learning of the centuries; but even with the necessary limitations which must be made on this account, the assertion still seems to hold good that the operation of the law of survival of the

fittest continually tends to the evolution of the most efficient men.

This movement is particularly rapid in those countries in which artificial barriers produced by hereditary rank are either absent or lightly felt, and in which there is a correspondingly high degree of fluidity in the economic organization. If we take, for example, the English speaking race, under whose dominion a man has practically no barrier between him and his goal except the free competition of his fellows, it is evident that the condition of society at any given time will more closely approximate the theoretical framework than would be the case in countries in which rank and similar barriers to the movement of labor-power exerted a greater influence; and, therefore, the law of survival of the fittest would operate with greater freedom and efficacy. Under any circumstances, however, it is evident that the law is in operation, and its tendency is marked.

What, we may now inquire, is the end of this movement? It is obviously impossible to give this question any definite answer from the standpoint of the concrete. There is, however, an answer in the abstract which will serve the purpose we have in view, and that is simply the point of complete adaptation to a fully developed environment.

The answer just given, although quite general, places us in a position to combine the dynamic movements which have been treated in this chapter and formulate them. This we do by saying that there is in every producing society a constant movement toward an ultimate condition in which men of the greatest possible

efficiency will produce the most advantageous quantity of the most beneficial commodities.

In arriving at this formula, however, we have not taken into consideration a most powerful factor, that is, changes in population, including both the flow of population from one society to another and the natural increases or decreases caused by changes in the relative position of the birth and death rates. Unfortunately, when we enter this extremely complicated and yet important field, we are left practically without aid from the physical scientists. As matter of fact, it is somewhat difficult to see just how any formula can be constructed to express the point where the movement of population from one country to another begins or ceases. It seems, however, that if we confine our investigation to the people of a single society, of the same race, and reared under substantially similar conditions, there should be some method of indicating the point where the birth and death rates will balance. The biologists have not been successful so far in their endeavors to locate this point. Some attempt has been made by writers on economics to deal with this subject, beginning with the essay of Malthus. The theory of Malthus was based upon the proposition that, in the absence of restrictive influences, population tends to increase in geometrical progression, while the supply of food increases merely in arithmetical progression. From this proposition he deduced the conclusion that the amount of food per unit would become continually smaller and smaller until extreme poverty with its baleful companions, misery, vice, crime and disease, should reduce the population and thus bring con-

sumption and production into equilibrium. This frightful proposition, which furnishes an excellent example of the importance of conforming the results of deductive reasoning to the elementary principles of common sense, had to be qualified by Malthus himself. In subsequent editions of his essay, he recognizes that the comforts enjoyed in times of prosperity gradually become necessities, and that the curtailment of these comforts, rendered necessary by the expense of rearing children, acts as a restrictive influence upon the birth rate. Moreover, it is by no means an unqualified principle that fecundity increases in any particular proportion to the excess of means over the standard of living. When Malthus wrote, he had before him the instance of the rapid increase in population in the United States, which he ascribed with some degree of accuracy to the lack of necessity of looking out for the morrow, and hence a birth rate uninfluenced by any such considerations. His deduction was, however, hasty. It has yet to be shown that the standard of living does not follow close upon the heels of means. The work of Giddings furnishes a very firm foundation for this view; and, in the absence of any authoritative data to the contrary, we are justified in taking the position not only that population does not tend to increase faster than the food supply, but also that there is no reasonable probability that population will tend to increase faster than general productivity. On the contrary, there seems to be every reason for concluding, as a general principle, that productivity increases faster than population, and hence that the beneficent operation of the dynamic

forces discussed in this chapter will not be nullified by an excessive growth of population.

We come now, however, face to face with the fact that this upward progression is not without limits. The records of the past tell us in language that cannot be misunderstood that nations and peoples are born, reach maturity and die in a manner strikingly similar to the case of the individual man. To what extent is it necessary to qualify the formula which we have reached, in order to deal with this condition?

In some cases, it is obvious that this process of growth and decline can be ascribed to the fact that the natural opportunities which gave rise to the growth are insufficient to maintain the position when secured, because of a change in the relative importance of the basic product. France, for example, is a nation which once held a paramount position in the world, but is now practically stationary in population and rapidly losing influence and prestige, both from a commercial and a military standpoint. Various schemes are advanced for curing this condition. M. Zola reproaches his countrymen with suppressing the growth of population by artificial means. M. Demolins advocates copying the habits of Englishmen in regard to home life, training of the young, etc.; while foreign writers devote a great amount of space to the so-called degeneracy of the Latin race.

Passing by, for lack of sufficient data, any question as to the degeneracy of the race, we can see that the loss in position which France has sustained can be almost entirely explained by lack of natural opportunity. It must be borne in mind that the source of the

wealth of France lies chiefly in agriculture and the manufacture of those particular articles in which the artistic temperament of the people gives them an advantage. Under present day conditions, this foundation is not broad enough to sustain the position of a paramount nation. There are two additional factors without which it is impossible to maintain an equality with other nations, namely, iron and coal; iron to furnish machinery and coal to furnish the power to drive it. Of these two elements of industrial success, the territory of France does not give that prodigal supply which can be found in more favored countries. Looking closely at the situation of France, then, as compared with that of her competitors, can we not see that, whatever might be the character of the people, and even though their primal vigor was unimpaired, it would be impossible for them, under existing economic conditions, to maintain a pre-eminent position among the nations of the world?

Let us cross the channel to England. Here we have a people whose industrial prosperity has its source in the products of coal and iron, and in the manufacture of the various articles in whose production machinery must be largely employed. The country itself is often referred to as the "workshop of the world." The fortunate proximity of the two elements of machine production, combined with the powerful and aggressive temperament of the people, has raised England to a prodigious height of commercial and military power. But, of recent years, the entrance of the United States and Germany into the competition for the markets of the world, has considerably decreased the degree of pre-eminence attained. It

will not be necessary at this point to discuss the relative position of Germany and England, but for our purposes it will be instructive to contrast briefly the position of England and the United States.

In the former country we find that the mining of coal and iron is steadily becoming more difficult and expensive owing to the necessity for going deeper and deeper into the earth in order to obtain the material; in other words, that the natural opportunities which formerly existed in such high degree are becoming exhausted. In the latter country, we find that the basic elements of coal and iron not only exist in enormous quantities but are also near the surface and can be mined at the minimum cost. Nor is this fact the whole measure of the advantage. The peculiar situation of the United States is particularly conducive to production on an enormous scale, thus rendering possible the most advantageous use of all the forces of production. Looking at these two facts alone, we can readily deduce the conclusion that the dethronement of England from the position of primacy, so far as her occupancy of that position has been due to the possession of superior facilities for production, is rapidly approaching.

But when the United States attains the coveted position of primacy, the problem will still remain to prevent a recurrence of the hitherto inevitable decline and fall. One element of strength possessed by the United States cannot, indeed, be taken away, and that is agriculture. The prairie land of the West and Northwest will furnish bountiful harvests until the end of time. The power based upon the manufacture of iron and steel,

however, is not upon such a firm basis. It is not beyond the reach of the imagination that iron and steel will not always occupy the prominent position which they now enjoy. If some process were discovered for producing aluminum as cheaply or more cheaply than iron and steel, the supremacy of these two commodities would be seriously challenged. It is not disputed that the greater lightness of aluminum and its comparative immunity from rust would, prices being equal, give it a conclusive advantage for many uses. Its adaptability to the various purposes for which iron and steel are now used might, indeed, be so great as to render it the principal and the latter the subordinate element necessary to the primacy of a nation, and to divert the palm of industrial supremacy to those lands where the presence of the elements necessary to the economical production of aluminum were most abundant.

The examples just discussed have been cited to show that, when we come to consider the causes of the rise and fall of nations, the discovery, development and exhaustion of the resources of the territory plays a very important part. In addition to this direct influence, there is an indirect influence arising from the gradual stiffening of the social framework as the society progresses toward a relatively complete development of its resources. As production begins to overtake demand, and the rate of profit for producing becomes nearer and nearer the normal rate of return, there seems to be an increasing disinclination to make radical changes in manufacturing methods. We can find an illustration of this principle in the case of Great Britain, and particu-

larly in the manufacture of iron and steel. It has for some time past been the complaint of technical journals in England that the methods in use there in the manufacture of iron and steel products were not as efficient as those in use in the United States, for example; and the prediction has been freely made that, unless the existing plants were replaced by plants of more modern construction, it would be only a question of time when the control of neutral markets would be lost. Just how much foundation there is for this complaint and prediction time will show. It is cited here in support of the general proposition that whenever the working capital of a nation once becomes invested in any particular industry, when plants have been constructed of capacity sufficient to supply the demand and return to their owners a rate of profit which is equivalent to that obtainable in other occupations involving the same risk, there is no longer that incentive for capital to flow into the occupation which exists in the case of an industry in course of development and in which profits are large. As a rule, capital looks to see what profit is being made at the time in any particular occupation. Unless there is apparently a safe margin, there is a disinclination to invest. From this consideration we are justified in asserting as a general proposition that, as the institutions of the society progress toward the state of comparative equilibrium, the framework becomes gradually more and more rigid and difficult to change, and an era of stagnation supervenes, followed by degeneration and decay.

Regarding these phenomena from a philosophical

standpoint, we may express the same idea in different words by saying that given a territory with certain discovered resources and a population of a certain productive energy, the interaction of the various forces will tend to form a certain framework; and that, the nearer this process approaches completion the more difficult is a change of base which would allow of a more efficient production. Younger societies, using the knowledge of the old, and supplementing it with all the improvements which inventive genius can suggest, enter into the combat and eventually push it from the pedestal of primacy, only to have the same process repeated in their turn.

What effect does this conclusion have upon the proposition that there is an underlying economic movement toward a state in which the most efficient men will produce the required amount of the most advantageous commodities? In answer to this question, it is necessary to say merely that the course of humanity as a whole toward this end is a course of progressions and reactions. No one society can proceed smoothly and uninterruptedly by selection within itself, because it soon reaches the culmination of its powers; but its work is invariably taken up by younger societies which profit by the experience of the older, progress to their culmination and are then succeeded by other societies.

Let us now ask, of what practical value is this conclusion? Its practical value consists chiefly in bringing out in clearer relief the importance of keeping the institutions of society fluid; in other words, of allowing

the greatest possible freedom of action. Under the most advantageous circumstances they have a tendency to stiffen, and under adverse circumstances the process of development can be checked long before it has reached its legitimate conclusion.

CHAPTER VI.

GOVERNMENTAL FUNCTIONS GENERALLY.

From a practical standpoint we now come to the culminating point of the long process of reasoning through which we have passed; and that is, to formulate the extent to which the powers of government may be invoked in order to assist the economic progress of the nation.

Upon this subject there have been, ever since the foundation of governmental science, two opposing schools, one viewing the problem from a theoretical standpoint and the other from a more practical standpoint, and neither particularly anxious to discover any merit in the teachings of the other. The conflict is not, however, so serious as one would be apt to infer when reading the remarks of philosophers concerning the theories or policies of their collaborators in practical affairs, and *vice versa*. In a number, if not the majority of cases, a thorough examination will disclose that the clashes arise not so much from differences of opinion as to the accuracy of the general principles expounded as from differences relating to the application of the general principles to particular conditions, these differences springing from the fact that no two men will look upon

the same state of affairs through the same eye-glasses. The personal equation is so strong that two men of hypothetically equal ability, coinciding in a certain formula of economic or social conduct, will often reach diametrically opposite conclusions as to the course to be pursued in particular cases.

This fact, however, does not constitute cause for discouragement as to the possibility of a theoretical science of government. While it is and will always be true that it is not possible to reduce the complex phenomena of life to such a complete system that the solution for all practical problems can be accurately deduced from established principles, yet it is no less true that, in dealing with practical problems, we can profit by the systematized teachings of experience and thus avoid, to some extent, the great danger of running counter to some irresistible economic tendency and creating an evil greater than the one cured. The errors which have been made by legislators in well intended but nevertheless misjudged attempts to remedy economic conditions are, unfortunately, numerous, and in some cases the consequences have been grave. There was a day when the world thought that the power of the government was unlimited and that the royal or legislative approval of a policy was conclusive as to its merits. The conception of underlying economic laws which set well-defined limits to governmental power was not developed until the failure of legislation to produce anticipated results led to an investigation of the causes of the failure; and it was then often found that evils which had their origin deep laid in economic conditions could not be

cured by fiat but would have to be cured, if at all, by means of remedies applied to causes more or less remote.

We have now, however, to note that, upon the discovery of this fact, many investigators went to the opposite extreme; and, after ascertaining that there were great natural tendencies which would ultimately work out the ideal state, they jumped to the conclusion that it was best to leave the work to these natural forces altogether and reduce the domestic function of the government to the protection of the public from invasions of certain well recognized personal and property rights. A notable instance of this tendency can be found in the work of Herbert Spencer, who carries the principle so far as to preclude the government from exercising the functions of public education, regulation of the coinage, administration of the postal service, etc. Such functions, he says, should be left to private enterprise, as the capacity of individuals for performing them efficiently and economically far surpasses the tape-incumbered methods of the government. Such a wide divergence of opinion in regard to familiar subjects would seem to indicate that the principles which lie at the basis of Mr. Spencer's proposed policy must be different from those customarily used, either consciously or unconsciously, by practical men. An investigation, however, shows that this is not so. Thus, Mr. Spencer says (Synthetic Philosophy, Justice, Part IV. of Ethics, Sec. 116):

"What are these duties of the State, considered under their most general aspect? What has a society in its corporate capacity to do for its members in their indi-

vidual capacities? The answer may be given in several ways.

The prosperity of a species is best subserved when, among adults, each experiences the good and evil results of his own nature and consequent conduct. In a gregarious species fulfilment of this end implies that the individuals shall not so interfere with one another as to prevent the receipt by each of the benefits which his actions naturally bring to him, or transfer to others the evils which his actions naturally bring. This, which is the ultimate law of species life as qualified by social conditions, it is the business of the social aggregate, or incorporated body of citizens, to maintain. . . .

The incorporated mass of citizens has to maintain the conditions under which each may gain the fullest life compatible with the fullest lives of fellow citizens."

What possible exception can be taken to this principle, considered as a broad rule? Certainly none will be raised in the United States. In this country the very foundation of our institutions is liberty; and "liberty" translated into philosophical phrase means a condition in which "each may gain the fullest life compatible with the fullest lives of fellow citizens."

Yet, when Mr. Spencer applies this principle to practical affairs, he reaches conclusions widely different from those reached empirically by the great body of the people. How can we explain this divergence?

In the first place, we must note that Mr. Spencer, in passing upon particular problems, passes from the domain of theory into the domain of fact—a domain in which deduction is not always a safe guide. In the

case of public schools, for example, he has taken all the facts into consideration and has applied to them the general principles which have been established by the experience of the past, and he has decided that, even though the education of the people may be necessary in a republic in order to prevent government by the people from degenerating into a government by mob, still the duty of providing for the education of the masses can safely be trusted to individual enterprise. Now it must be obvious at a glance that there is no method of solving this question by deduction. The data necessary to form the basic principles are lacking. It must be decided by empirical methods almost exclusively, because there is a question of fact involved; in other words, common sense is the chief element in casting the decision. And yet, after deciding this question of fact by deduction from a general principle, in the teeth of the experience of the United States during the past century, and after making the impractical proposal of leaving the performance of such an important function to individual enterprise and voluntary associations, he complains that such excursions into the realm of practical affairs do not evoke the same admiration as his unexampled work in philosophy.

It is not, however, difficult to understand the sweeping condemnation of every form of governmental interference with economic conditions which we find in Mr. Spencer's work, if we regard the matter from his standpoint, nor is it safe to assume that the conclusions of such an eminent reasoner are wrong without making a thorough study of the postulations which underly the

theory. The source of error, if any, will often be found to lie in the fact that the author wrote under certain erroneous preconceptions which have the force of implied assumptions as to matters of fact.

In order to reach the conclusion that the function of government should be confined to the protection of the public from invasions of well-recognized personal and property rights, Mr. Spencer must have postulated not only that the great underlying tendencies are sufficient in themselves to construct the ideal state, but also, by implication, that they will construct this state with the minimum of friction and in the shortest possible time.

It cannot be denied, from a theoretical standpoint, that the first part of this postulate is correct. Indeed, if it were not, the condition of the human race would be hopeless, since, as a whole, it has not been able in the past to map out and follow definite lines of economic policy, and there is no immediate prospect that it will attain this power at any period deserving present consideration. All the progress which has been made in the past has been due to the work of the great natural tendencies, sometimes aided and sometimes hampered by legislation.

But with regard to the second postulate, which is a necessary implication from the wide generalizations made, we stand upon debateable ground. It is one thing to say that the great natural tendencies will work out the cosmical plan, and another and widely different thing to say that the action of the government will necessarily hamper instead of aid this process. We may cite broadly as an example of disturbance, the case of

capital and labor. Theoretically the interests of the employer and the employed are identical; practically they come at times into fierce conflict. We see instances of this conflict in the sweat shop system, ruinous to the workers from both an economic and a physiological standpoint, and therefore damaging to the society at large; and also in the abuses in hours of work and in the commissary in the mining regions. When we look upon human beings toiling sixteen and eighteen hours a day in the stifling air of the sweat shop, frequently sleeping in the same apartment in which they work, with no opportunity for exercise or enjoyment of life except such as they may get on Sunday and not even that unless the Sunday laws are enforced; and when we stop to reflect upon the physical, mental and moral degeneration which necessarily result, and the consequent diminution in the aggregate strength of the nation, we instinctively look for immediate remedies. It is useless to say "Wait, and the work which you are seeking to accomplish will be done by nature"; or even to say "Do not attempt to ameliorate the conditions; they exist as a result of natural laws beyond your control, and you will only make matters worse by attempting to remedy them." To the first of these statements, the very truthful and forcible answer can be made that by the time the forces of nature accomplish the desired object, not only the generation immediately under consideration but many succeeding generations of such unfortunates will have suffered and will have radiated the degenerating influences of misery and vice over an ever widening circle. To the second, the answer is that evi-

dence that errors have been made in attempting to remedy bad conditions is not proof that there is not a reasonably effective course to pursue.

It is, indeed, argued in all such cases that such legislation constitutes an interference with the right of contract, generally, and, particularly, with the right of every man to sell his labor where he will; but, in reply, it can be urged that the right of contract is subordinate and not superior to the public welfare, and if a particular contract would be in derogation of the public weal, the limitation of the right would be not only reasonable but necessary.

Avoiding, however, both extremes, is there not a middle course open to us? Can we not recognize that the great natural tendencies are independent of governmental control without at the same time saying that the powers of government should never be invoked to aid nature, either directly or indirectly, by diminishing friction? It may, indeed it must, be admitted, that no government can have sufficient power to control any great underlying economic tendency; but even after making this admission, we see that there is a wide field in which the natural tendencies either have insufficient scope to accomplish their end fully, or in which there is an excessive amount of friction in reaching an adjustment. In the latter case, the claim that the ameliorative powers of government should not be invoked is on a par with saying that a machine which is jarring and screeching with every movement should not be oiled. At the same time, however, we must be careful to see that the part is not placed above the whole; that the

great fundamental rights are not impaired in order to acheive comparatively unimportant ends. But this limitation is not due to any sacredness in those rights *per se;* but merely to the fact that interference in that direction will cause much more evil than will be suffered if the correction be left to the forces of nature.

Bearing these considerations in mind, let us repeat the formula of economic conduct which we have previously outlined. The general formula is (1) to increase the total product; and (2) to keep the channels of distribution free so that such increase may be promptly diffused throughout the society. The formula for the economic duty of the government is identical. As to the practical application of these formulas, there may and undoubtedly will be violent differences of opinion; but as to the accuracy of the formulas themselves there should be no dispute. They are supported by both reason and experience.